GARDNER ON URINE THERAPY • PARANORMAL LINCOLN • SCIENCE AND ALTERNATIVE MEDICINE

Skeptical Inquirer

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BIGFOOT

- Bigfoot's Screen Test
- Tracking Bigfoot on the Internet

Urban Legends

The Organ-Snatching Tale

The Snuff Film Saga

Statement Analysis

SCAN or Scam?

Freeman Responds on Mead Controversy

Published by the Committee for the Scientific Investigation of Claims of the Paranormal

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Photo: Patterson/Gimlin ©Rene Dahinden
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EDITOR'S NOTE

Woodland Stories and Urban Legends

Stories and claims about Bigfoot have been around for decades. Normally they don't rise enough above lore to merit much serious scientific attention. But we give the Bigfoot business some detailed scientific scrutiny in this issue, and there's a reason.

Recently three independent studies have presented arguments suggesting that fabrication of the famous Patterson-Gimlin film of a supposed Bigfoot would have been unlikely or impossible. In essence they argue that that the film subject's body dimensions are outside the range of human variation and that its gait cannot be duplicated by a person. The implication of these three studies is that Bigfoots may indeed be roaming around the Northwest woods.

In this issue, two academic scientists with strong credentials, David Daegling and Daniel Schmitt, carefully examine those arguments and come to a different conclusion. Daegling is associate professor of anthropology at Yale University, and Schmitt is an assistant professor in the Department of Biological Anthropology and Anatomy and head of the Vertebrate Movement Laboratory at Duke University Medical Center. Following that David Matthew Zuefle of the University of North Carolina describes his two-year foray into the sociology of Bigfoot belief via the Internet.

* * *

Urban legends have been given new voice through the power of the Internet and other modern communications. Fascinating in themselves—in part because of their superficial believability and in part for what they tell us about some of our own deepest fears—they inhabit a rumor-laden netherworld between legitimate news and outright hoax. They are often passed along innocently by ordinary people. We hear them, become concerned about a new danger, and alert our friends.

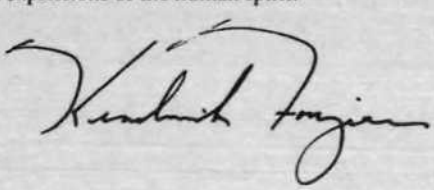
In this issue, CSICOP Fellow Jan Harold Brunvand, the dean of urban legends research, briefly introduces two new investigations. SKEPTICAL INQUIRER Managing Editor Ben Radford delves deeply into one of the scariest urban legends of recent times in "Bitter Harvest: The Organ-Snatching Urban Legends." Then in "The Snuff Film: The Making of an Urban Legend," author/writer Scott Stine looks at something seemingly even more horrific. He shows how over nearly a quarter century the "snuff film" has transformed from slasher film to hoax to anti-pornographers' strawman to urban legend.

* * *

In "NAGPRA, Science, and the Demon-Haunted World" Geoffrey A. Clark, Distinguished Research Professor of Anthropology at Arizona State University, focuses a critical eye on the antiscience and pseudoscientific aspects of what to most seemed a well-meaning law, the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990. He argues that despite its stated intentions to protect Indian rights and religion, the law proceeds from antiscience attitudes and antievolutionary perspectives and is a serious impediment to scientific study of the past.

* * *

Clark's article is only a prelude. Our July/August 1999 issue will be a special issue devoted to scientific and philosophical discussions about the relationships and conflicts between science and religion. Noted scientists and scholars will explore the troubled boundaries between these two grand expressions of the human spirit.



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Scientists, Physicians Gather in Philadelphia for 'Science Meets Alternative Medicine' Conference

MATT NISBET

This century has seen astounding advances in scientific medicine, including the near elimination of smallpox, malaria, and polio; successful organ transplants; heart and brain surgery; and partial mapping of the human genome. Yet a host of mostly unproven and often unscientific therapies and treatments commonly referred to as alternative medicine continue to gain widespread popularity.

The American Medical Association defines alternative medicine as a diagnostic method, treatment, or therapy that appears to not conform to standard medical practice, or is not generally taught at accredited medical schools. Some alternative therapies are centuries old and originated in non-Western cultures, such as Chinese acupuncture or Native American herbal remedies. Other practices such as homeopathy, chiropractic, faith healing, and naturopathy emerged during the nineteenth century in competition with scientific medicine. Recently developed alternative therapies include therapeutic touch and scores of "engineered" dietary supplements.

Alternative medicine's popularity appears to be increasing. According to a study last year in the *Journal of the American Medical Association* (*JAMA*), Americans spent $27 billion on alternative medicine, a 50 percent increase from 1990. A survey also published in *JAMA* showed that people using one of sixteen queried alternative therapies increased from 33.8 percent in 1990 to 42.1 percent in 1997. Responding to consumer demand, health care companies have extended coverage to a number of alternative practices including chiropractic and acupuncture. States have begun licensing alternative medicine practitioners, with naturopaths regulated in eleven states. Seventy-five of the 125 U.S. medical schools, or 64 percent, teach alternative therapies as part of coursework. Last year *New York Times* health columnist Jane Brody wrote that "alternative medicine is clearly the largest growth industry in health care today."

While some physicians deem the figures measuring demand and popular use of alternative medicine as inflated and often exaggerated in the media, it is clear that the scientific and medical communities can no longer afford to ignore a host of unsupported claims. In a September editorial in the *New England Journal of Medicine* (*NEJM*), editors Dr. Marcia Angell and Dr. Jerome Kassirer wrote that "It is time for the scientific community to stop giving alternative medicine a free ride. There cannot be two kinds of medicine—conventional and alternative. There is only medicine that has been adequately tested and medicine that has not, medicine that works and medicine that may or may not work." (The piece was reprinted in SI, January/February 1999.)

A History of Skepticism of Alternative Medicine

Angell's and Kassirer's insistence on testing and verification ring familiar to readers of SKEPTICAL INQUIRER, which has featured articles evaluating alternative medicine claims since 1986. In fact, over the last decade claims of alternative medicine have emerged as one of the most prominent areas of pseudoscientific and paranormal claims and beliefs, ranking with UFO and alien lore in terms of interest among the public and the media.

Responding to the need for a scientific summit on alternative medicine, more than two hundred physicians, scientists, health care professionals, and students from across the country gathered in Philadelphia in late February for the SKEPTICAL INQUIRER-sponsored conference "Science Meets Alternative Medicine." The two-day event featured keynote addresses by Dr. Angell and George Lundberg, former editor of *JAMA*, and included presentations and plenary discussions ranging from scientific critiques of chiropractic, homeopathy, and other alternative therapies to medical ethics and consumer/physician education.

The conference was also the first major public unveiling of the year-old *Scientific Review of Alternative Medicine* (*SRAM*), a peer-reviewed science journal focused exclusively on alternative medicine and published by Prometheus Books. At a news conference, CSICOP Chairman and Prometheus head Paul Kurtz remarked, "Today is historic. It stimulates a new direction of concentrated, scientific evaluation of unproven therapies."

Journal editor Dr. Wallace Sampson, a retired professor of medicine at Stanford, described the origins of *SRAM*. "When we began the journal, we did so simply because no one else was doing it. By definition, we have to start with the premise that alternative medicine claims are all unproven or false." Dating back nearly three decades, Sampson is one of the first

members of the medical and science communities to raise alarm at the lack of scientific support for many alternative medicine claims. Sampson, along with psychiatrist Dr. Stephen Barrett, biochemist Saul Green, physician Dr. John Renner, public health educator William Jarvis, and others have worked to improve the quality of consumer, physician, and media information on alternative medicine.

Sampson and his colleagues realized the need for a journal after years of reviewing the published literature on alternative medicine and finding many inadequacies in testing and verification. "That shocked me and was very disturbing," said Sampson. Though science and medicine attempt to constantly evaluate both new and established theories and data, the verification process can sometimes fail. "There has to be another side to peer-review."

Not only are studies and verification of alternative medicine claims often inadequate, but there exists what *SRAM* editors described as a "massive science gap" in alternative medicine. "The science is missing. It's the science that matters and we're trying to get it into the debate on alternative medicine," said Lewis Vaughn, executive editor of *SRAM*. "If we approach alternative medicine as a political debate, focusing on who's on each side, then we don't get at what consumers want, Does it work?"

Sampson, in describing the state of physician education in alternative medicine, noted not only a "science gap" but a "knowledge of science gap." He said that there has been enough study of some therapies like homeopathy that have been proven to be "physically impossible and worthless," but both consumers and physicians seldom are made aware of critical evidence. In a survey of American medical schools, he found that only five schools taught students how to analyze unproven health claims, while over fifty had courses that treated such claims uncritically. "At a time when physicians desperately need to know how to scientifically evaluate all the dubious claims that patients are confronted with," he said, "this training is practically nonexistent." Sampson noted that the uncritical courses avoided discussion of evidence that disproves or undermines the claims, and that the result was indoctrination rather than education.

Speakers Compare Culture of Alternative Medicine to Religion

In her Sunday keynote speech, Dr. Marcia Angell said that most consumers of alternative medicine "assume it's better because it feels better and is easier to understand." According to Angell, many members of the public seek the more attentive, individualized care of an alternative medicine practitioner, may be angry at the medical establishment, and don't understand science. "Some rely on alternative medicine alone, and that's the danger."

Angell described alternative medicine's greatest appeal as religious in nature. Leaders in the field like self-described guru Andrew Weil and Deepak Chopra offer "inspirational testimonials" that "explain the great mysteries" of health. She described Weil's and Chopra's language and writings as metaphysical. "Disease represents spiritual weakness. People can choose to be well or sick." Just as the soul might triumph over the body in religion, the mind triumphs over the body in alternative medicine. Angell pointed out that, in place of offering promises of an afterlife, gurus like Weil and Chopra offer a longer, "fuller" life. She cited Chopra's claim to be able to extend life fifty years to the age of 120.

Though Weil and Chopra might be viewed as "prophets," Angell described one major difference between religion and alternative medicine. "Most religions have an ethical system. This one is blatantly narcissistic."

In a separate presentation on the topic of Andrew Weil and consumer education, Dr. Arnold Relman, editor emeritus of the *NEJM*, described the debate over alternative medicine, contrary to the preachings of alternative medicine gurus, as "an empirical question, not a theological question." Following an editorial in the *Wall Street Journal*, Relman was asked by the magazine *The New Republic* to contribute a review of Weil's latest book, *Ask Dr. Weil*. Relman began to look into the philosophy of Weil with "horrified fascination." He spent the next year reviewing all eight of Weil's books.

Relman highlighted the seventh chapter of Weil's first book *The Natural Mind* as "required reading for anyone who wants to know" about Weil's philosophy. Weil advocates "stoned thinking" which relies on intuition and promotes an ambivalence among contradictions in ideas. For Weil, truths are intuitively evident and do not need scientific support. "This philosophy poses serious intellectual problems for the integration of alternative and complementary medicine" said Relman. He criticized Weil for being a self-appointed leader in the field of alternative medicine though "he's never put any medical claims to test, nor participated in any clinical study."

Organizing Response from the Medical and Scientific Community

Many proponents of alternative medicine may counter, If the consumers are happy, where is the problem? "The long-term damage," asserted Angell, "is the abandonment of critical thinking, something that will spread throughout society." She said that there has not been a widespread reaction from the medical community because in part, doctors are not scientists, and can be drawn to alternative medicine. Angell also described managed health care as overly responsive to consumer demand. "HMOs are afraid, in the face of such a powerful consumer movement, to say that the emperor has no clothes."

Longtime alternative medicine watchdog and psychiatrist Dr. Stephen Barrett was even more emphatic. "I

don't think fighting quackery is thought of as important in organized medicine. There is no organized information network." Robert Park of the American Physical Society described a similar problem among the scientific community. "The scientists aren't speaking up, so anything goes."

Conferences like "Science Meets Alternative Medicine," the continued publication and increased circulation of the *Scientific Review of Alternative Medicine*, and the participation of medical leaders Angell and Relman are important first steps in stimulating scientific critiques of alternative medicine and sparking consumer and physician awareness. An improved role for the media in providing accurate and science-based health information is also sorely needed. "What you're up against when you pit science versus alternative medicine is the power of the testimonial in the media," commented Angell at the Saturday press conference. "That is the toughest hurdle."

For more information on the *Scientific Review of Alternative Medicine*, visit its Web site at **http://www.hcrc.org/sram/**.

Matt Nisbet is Director for Public Relations for CSICOP.

High-Tech Whiz Kid Joe Firmage Goes UFO Bonkers

Who is Joseph Firmage? (*Firmage* rhymes with *mirage*.) Perhaps you saw his full-page ad in the February 19 *USA Today*, filled with ominous-sounding pronouncements about UFOs by Harry Truman, General MacArthur, John F. Kennedy, Jimmy Carter, Ronald Reagan, Colonel Philip Corso (recently deceased), Admiral R. Hillenkoetter, Gerald Ford, Allen Hynek, Edgar Mitchell, Harold Puthoff, and others. The page background is completely black, with the dignitaries' quotes in white. The center of

An Asteroid with Klass

Philip J. Klass

An asteroid has been named after Philip J. Klass, the veteran *Aviation Week* journalist and indefatigable skeptical investigator of UFO claims. Klass, a founding CSICOP Fellow and member of the Executive Council, is chairman of CSICOP's UFO subcommittee. He has long been considered the leading skeptical investigator of UFO claims. His most recent book in this area, *The Real Roswell Crashed Saucer Coverup*, was published by Prometheus in 1997.

Earlier books include *UFO Abductions: A Dangerous Game*, *UFOs: The Public Deceived*, and *UFOs Explained*. He is also editor of *Skeptics UFO Newsletter*. His UFO investigations and writings have been a passionate sideline to his thirty-four-year career as a senior editor at *Aviation Week & Space Technology*, the world's leading aerospace publication. (Since 1986 he has served as a contributing avionics editor.)

Astronomer and CSICOP scientific consultant James McGaha (Grasslands Observatory, Tucson) carried out the detailed formal steps required by the International Astronomical Union for naming an asteroid.

"Last fall Robert Sheaffer and I discussed the possibility of naming an asteroid in honor of our fellow skeptic Phil Klass," says McGaha. "I said I would work on getting a numbered asteroid to name and Robert would write the citation. On March 1, 1999, it became official. The asteroid formally known as 1983 RMZ \ 7277 is now 'Klass.' Asteroid Klass, which is 11.5 km in diameter and takes 4.24 years to orbit the sun, will represent a man who has been a shining light of skepticism."

Here is the formal citation:

Klass 7277 Philip J. Klass, U.S. author/aerospace journalist

(7277) Klass = 1983 RM2.

Discovered 1983 Sept. 4 by E. Bowell at the Anderson Mesa Station of Lowell Observatory.

Named in honor of Philip J. Klass (born 1919), for more than thirty years the Senior Avionics editor of *Aviation Week & Space Technology* magazine. Klass is best known to the public for his work in skeptically evaluating sensationalist claims about UFOs, having made numerous TV appearances and written five books on the subject. He has also written extensively on surveillance satellites. Name and citation provided by Robert Sheaffer.

Asteroid Klass joins a number of other asteroids named after prominent persons associated with scientific skepticism, including "Kurtz," "Gardner," "Randi," and "Skepticus," named after the Committee for the Scientific Investigation of Claims of the Paranormal (CSICOP), publisher of the SKEPTICAL INQUIRER, on the occasion of CSICOP's twentieth anniversary in 1996 (*SI* September/October 1996).

—Ken Frazier

Ken Frazier is Editor of SKEPTICAL INQUIRER.

the page contains a photograph of Earth viewed from space. Above are the large white words "The Truth." Firmage's name does not appear on the ad; the only stated sponsorship is the "International Space Sciences Organization," at the Web site **www.thewordistruth.org**.

Firmage, 28, is one of the new Internet whiz kid multimillionaires. First with Serius Corp., which he sold to Novell for $24 million in 1993, then by co-founding USWeb in 1995, a company now worth about $2 billion, he accumulated a fortune. But shortly after his obsession about far-out theories of gravity, quantum mechanics, faster-than-light travel, religious miracles, UFOs, and space aliens became known last November, he left USWeb—some say he was pushed out to avoid embarrassing it—to devote himself to his new interests.

You can log onto the Web site to see what Mr. Firmage is up to. Once you navigate past the entry screens, Firmage's bizarre world is revealed. I found dozens of words such as "science" which, when clicked, produce overly dramatic phrases like "You Are Time." One page contains the words "The Kairos" with rays to other words like "Eden" or "Evolved." When I clicked on "Eden," the cryptic message "What is Life?" appeared. Clicking "Evolved" brought up the words "What is the significance of Life?" In what can charitably be described as a maddening experience, I hunted around until I found myself looking at a blue hand supporting Earth on a finger.

Eventually, I stumbled onto the actual document called "The Truth." This turned out to be a long, rambling discourse on the wonders of the cosmos, science, biology and evolution, alien visitors, and Christianity. The "condensed version" of "The Truth" is 150,000 words long, and has more than twice the number of characters than does the entire Hebrew Torah. But the thoughts expressed there are as rambling and incoherent as the rest of the Web site. Firmage goes on interminably about Eden, life, Y2K, ecology, his life stories, Wall Street, Darwin, quantum computing, overunity energy, gravitic propulsion, the Tao, Yin and Yang, the birth and ministry of Jesus Christ, the Majestic 12 UFO group, the history of UFOs, Travis Walton's alleged alien abduction, the Roswell and Socorro incidents, and on and on and on.

Firmage has introduced new supposed MJ-12 documents on his site. The images I saw there were poorly scanned and fuzzy; perhaps Firmage wants to prevent critical analysis. He expects to head off skeptics at the pass with the following trenchant comments from his news release of December 14, 1998:

> After years of analysis of previously-published MJ-12 documents (such as the work conducted by Stanton Friedman) and particularly in light of the newly released MJ-12 documents, one thing is clear to virtually all serious researchers regardless of whether they believe in the pristine authenticity of the new materials: many of the MJ-12 documents simply must have been authored by or within the military-intelligence community of a superpower. This fact alone speaks volumes when considered next to the mountain of other UFO evidence. If the documents are pristine and true, they were written by the individuals therein mentioned or assistants. If the documents are partial or complete forgeries, then they were written by an intelligence agency of the government of either the United States or the Soviet Union.

In other words, no mere civilian could possibly produce a fake "secret military document." As Bart Simpson would say, "Yeah, right!"

But the real kicker is where Firmage finally gets around to claiming that the miracles of Jesus (walking on water, raising the dead, the miracle of the loaves, and eighteen more) were absolutely real! Firmage asks, "How could we become empowered with gifts such as these?" And he answers, "It would almost surely occur through the ultimate power of genetics and evolution, whether that means outright evolution, *mating with a higher species*, or active genetically-engineered combination of features. This may shock many people, but it is hard to imagine that the basis of all biological life—DNA—and its natural and applied processes do not play the fundamental role in the advancement of species throughout the Cosmos. Might this have something to do with the oft-reported phenomenon of human "abduction" by our visitors?"

In other words, Jesus was an alien hybrid! If I didn't know any better, I'd suspect Firmage was a stooge of the Roswell "conspiracy," put out there to make the UFO folks look bad. As it is, I think Firmage's expensive campaign simply shows that the depth of one's intellectual clarity and of one's net worth need not be related. In case you were wondering, a full-page ad in the Friday edition of *USA Today*, with a circulation of 2.6 million, runs a cool $81,250. Look for a major publicity campaign and appeal for volunteers in May of 1999.

For more details on Firmage and his views see Philip J. Klass's *Skeptics UFO Newsletter* No. 56, March 1999.

—David E. Thomas

David E. Thomas is a New Mexico physicist and SKEPTICAL INQUIRER consulting editor.

Glenn Seaborg, Nobel Laureate Discoverer of 10 Elements, Champion of Science Education, Dies at 86

Nobel laureate chemist and CSICOP Fellow Glenn T. Seaborg—one of the outstanding scientists of the twentieth century—died February 25 at his California home of complications following a stroke last August.

He was also a highly respected statesman of science (he had served as president of both the American Association for the Advancement of Science and the American Chemical Society) and had a

lifetime dedication to science education both as a teacher himself and as an ardent supporter of programs to encourage young people in science. He is in the *Guinness Book of World Records* for having the longest entry in "Who's Who in America."

A member of the University of California faculty since 1939, he was the co-discoverer (with Edwin McMillan, with whom he shared the Nobel Prize in chemistry in 1951) of plutonium in 1941 and of nine other transuranic elements: americium (element 95), curium (96), berkelium (97), californium (98), einsteinium (99), fermium (100), mendelevium (101), nobelium (102), and seaborgium (106)—officially named for him, to his delight, in August 1997.

He also co-discovered many of the isotopes used in nuclear medicine and industry today, including iodine-131, technetium-99m, cobalt-57, and cesium-137. In fact he has been called a father of nuclear medicine.

His formulation in 1944 of the "actinide concept" of heavy element electronic structure was called one of the most significant changes in the periodic table since Mendeleev's nineteenth century design.

At the time of his death, Seaborg was still the University of California's University Professor of Chemistry and Associate Director-at-Large of Lawrence Berkeley National Laboratory, where he maintained his office. He was also chairman of the Lawrence Hall of Science at UC Berkeley.

"I consider Glenn Seaborg, among all the faculty of the University of California, to be the most distinguished in all the four areas of excellence in which we judge faculty—research, teaching, university service, and service to the country," said Clark Kerr, former president of the University of California and a life-long friend.

"Dr. Seaborg was a true giant of the twentieth century, a legend in the annals of scientific discovery," said Berkeley Lab Director Charles Shank. "For his service to science, to education, and to our nation, we honor Dr. Seaborg's distinguished lifetime."

Sandia Labs

Glenn Seaborg

In 1961 Seaborg was appointed chairman of the Atomic Energy Commission by President John F. Kennedy. He was subsequently reappointed by both Presidents Johnson and Nixon, serving in that position until 1971. Although he participated in the Manhattan Project and headed the AEC, he was also a proponent of nuclear arms control and wrote books focusing on arms control issues and related public issues.

He served on the national commission that published *A Nation at Risk* in 1983 and frequently spoke out on the need for science education.

"Glenn Seaborg was a stalwart friend of CSICOP in its defense of science," says CSICOP chairman Paul Kurtz. "He recently was pleased to join our Council for Media Integrity and to lend his name to those of us who wish to raise the level of scientific literacy in the United States. The skeptical movement has lost a powerful voice."

Seaborg had a long association with the concerns of CSICOP. He was one of the original signers of the "Objections to Astrology" statement in 1975 that helped lead to the creation of CSICOP. A CSICOP Fellow, he published two articles in the SKEPTICAL INQUIRER, "The Crisis in Pre-College Science and Math Education" (Spring 1990) and "The Positive Power of Radioisotopes" (January/February 1995).

When CSICOP's Council for Media Integrity was founded in 1996, he became co-chairman, with Steve Allen, and spoke at the Council's first news conference, in Los Angeles. "We have a problem with regard to the amount of pseudoscience facing us," he said. "One solution is increasing the scientific literacy of the general public." (See SKEPTICAL INQUIRER, May/June 1997.)

In a SKEPTICAL INQUIRER interview titled "The Elemental Man" (November/December 1997), Seaborg spoke of his love of science. ("It's just the excitement of it; the adventure of it. My whole life I've been paid for doing what I want to do.") He also expressed his concern about bogus science—"a whole world of what you might call pseudoscience, false depictions of science and its impact upon society." Better science education and groups like the Council for Media Integrity are among the antidotes, he said. He urged more scientists to become involved with the public. "We need more scientists willing to communicate to the general public the essence of science and the values of science." And he expressed pride that despite all his involvement in Washington policy and public affairs, he always maintained his connection to science. "All my life I've continued my science."

— Kendrick Frazier

Peruvians Claim Miracle Mud Baths from Aliens

Locals in the small desert town of Chilca, Peru, believe that three muddy ponds nearby hold miraculous powers. Both locals and tourists to the small town, forty miles southeast of the Lima, can be seen wading in the waist-deep mud and basking on the sides of the ponds.

Fund for the Future

CSICOP AT THE CENTER FOR INQUIRY

CFI-International
Amherst, N.Y.

1999 PRIORITY

Using the Media & Telecommunications to Promote Science and Reason

The Fund for the Future is a capital campaign to provide CSICOP with the resources needed to more effectively influence media and public opinion. The 90s have been defined by a telecommunications revolution, along with an explosion of misinformation available to the scholar and citizen alike. The hunger for superstition, pseudoscience, the paranormal and miraculous solutions has never been more acute.

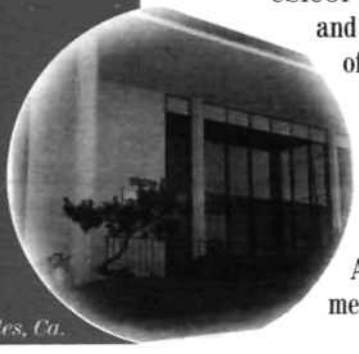
THE TEN-YEAR PLAN

CFI-Midwest
Kansas City, Mo.

1999 Contributions are needed for current priorities:

- Increased media appearances by skeptical spokespersons
- Press releases, opinion pieces and media alerts
- Greater exposure through the Internet, including webcasting
- National initiatives coordinated by the Council for Media Integrity
- Instructional materials introducing skepticism to elementary and secondary school students
- Video production

HOW CAN YOU HELP?



CFI-West
Los Angeles, Ca.

CSICOP has established its expertise and integrity. It's time to command more media attention and a larger audience. The Center for Inquiry Fund for the Future is about new methods of outreach and broader influence, and is driven by an ambitious ten-year strategic plan for growth.

We depend on the support of readers and friends to continue leading the international skeptical movement. Gifts to the Fund for the Future provide the resources we need to respond to today's challenges.

All gifts are gratefully accepted. The Fund for the Future welcomes gifts of encouragement and major investments.

Cash contributions and gifts of stock are needed for immediate growth and new initiatives. We also offer a range of planned giving opportunities, from bequests to assorted tax-advantaged trusts and pooled funds. Planned gifts support our work in the future and can provide an income stream for you and a beneficiary. You may also make a gift supporting the general endowment, or establish a special purpose fund underwriting a long-term project that expresses your personal interests and commitment to skepticism.

In today's stock market, gifts of highly appreciated securities offer particular advantages to the donor. When donating stock to a charitable organization, you avoid taxes and maximize the impact of the asset you are donating.

Contact Anthony Battaglia at (716) 636-7571 ext. 311 or via e-mail at CFIANTHONY@AOL.COM to discuss accomplishing your philanthropic and financial goals and contributing to the Fund for the Future.

Bill Nye "The Science Guy," Joe Nickell, and entertainer Steve Allen appear on a radio show.

CSICOP
at the Center for Inquiry
P.O. Box 703
Amherst, NY 14226-0703
(716) 636-1425 ext. 311
Fax (716) 636-1733

Co-chairs of the Fund for the Future Campaign: above, author and TV personality Steve Allen; below, author and critic Martin Gardner.

COUNCIL FOR MEDIA INTEGRITY

Formed just weeks after its inclusion in the Ten-Year Plan, the Council for Media Integrity monitors and challenges media programs that convey unfounded claims and mislead the public about science. Members include Steve Allen (co-chair), E. O. Wilson, Stephen Jay Gould, and many others. CSICOP will invest in electronic infrastructure to facilitate rapid response to irresponsible programs.

ENHANCED LIBRARY RESOURCES

The Center for Inquiry's skeptics' library—already the finest of its kind in the world—needs additional funding to enlarge its core collection and add electronic media. Worldwide modem access to the library's catalog is already nearly complete.

ADULT EDUCATION

The Council cosponsors the Center for Inquiry Institute, which has already expanded its offerings to include a new three-year certificate program in science and skepticism. Courses are scheduled in Amherst, Los Angeles, and other cities.

REGIONAL OUTREACH

With the establishment of The Center for Inquiry–West (Los Angeles), The Center for Inquiry–Midwest (Kansas City) and The Center for Inquiry–Rockies (Boulder, Colorado), giant steps have been taken to enhance direct field service to skeptical activists. Additional regional centers are planned, with expanded calendars of activities.

FOCUSING UPON THE YOUNG

To present the skeptical message more compellingly to the young, CSICOP will develop new materials—ranging from age-appropriate print publications to audio and video cassettes and instructional coursework. Goals include enhanced understanding of science and improved critical thinking skills.

While reports of people using mud baths for their restorative powers are not uncommon, the claims made about the baths are: "The Miracle Maker," the largest of the ponds, is touted as a cure for arthritis, rheumatism, cararacts, muscle pain, and vision problems. A second pond, "The Enchantress," supposedly cures skin ailments and migraines. The third, "The Twin Maker," is claimed to boost male and female fertility as well as cure impotence.

The miracles are not considered to be religious in nature. In fact, locals claim that aliens in space ships have given the mud ponds their powers. They say the aliens come to harvest an unknown material from the ocean off Chilca's beach. In the process, the UFOs supposedly leave behind substances that leach into the ponds through underground springs and give the ink-black mud its curative powers. Some locals claim to have seen lights in the night sky and attribute them to visiting UFOs.

Skeptics point out that the ponds' high sulfur content can temporarily ease arthritis pain and stiffness, as well as clear up problem skin. Other people may feel better temporarily due simply to enjoying a warm mud bath and the placebo effect.

It is true that the town apparently has a high number of twins—more than 100 in a town of 10,000 according to mayor Numa Rueda. But Dr. Augusto Ascenzo, head of a prominent Lima fertility clinic, notes that "Some communities have large numbers of twins for genetic reasons or due to coincidence. It is not proof of the mud's power."

The Nazca lines, 185 miles southeast of Chilca, are Peru's most famous drawings. The giant lines, etched in the desert sand, have drawn UFO buffs since the publication of *Chariots of the Gods?* in the early 1970s. The book, by Erich von Däniken, speculated that the lines were actually alien landing strips, although descendants of the Nazca Indians who lived there and created the drawings might feel slighted at the suggestion.

—Benjamin Radford

Benjamin Radford is Managing Editor of the SKEPTICAL INQUIRER and has traveled to alleged mystical sites in Peru.

Science, Technology Shape Century's Top News Stories

Just in case someone you know doesn't think science and technology shape the world, have them take a look at the top 100 news stories of the twentieth century, recently selected by a group of scholars and journalists on behalf of the Newseum journalism museum in Arlington, Virginia.

A good share of them are largely or in part science and technology stories, starting with the top two:

1. United States drops atomic bombs on Japan to end World War II. 1945
2. Astronauts land on moon. 1969

Here are some of the others:

4. Wright brothers make first flight. 1903
11. Discovery of penicillin. 1928
12. Discovery of DNA structure. 1953
18. Soviets launch Sputnik, world's first satellite. 1957
19. Einstein presents theory of relativity. 1905
20. FDA approves birth control pill. 1960.
21. Polio vaccine proves effective. 1953
25. AIDS identified. 1981
28. Television debuts at World's Fair. 1939
30. Lindbergh flies solo across Atlantic. 1927
31. First mass-market PCs launched. 1977
32. World Wide Web revolutionizes Internet. 1989
33. Bell Labs scientists invent the transistor. 1948
40. First regular radio broadcasts begin. 1909
42. ENIAC is world's first computer. 1946
43. Regular TV broadcasts begin. 1941
46. Plastic invented. 1909
48. First atomic bomb test in New Mexico. 1945
51. Scientists patent computer chip. 1959
52. Marconi sends radio signals across the Atlantic. 1901
57. Rachel Carson book *Silent Spring* helps launch environmental movement. 1962
60. Russian Yuri Gagarin is first man in space. 1961
61. First jet airplane flight. 1941
64. Manhattan Project begins secret work on atomic bomb; first chain reaction. 1942
66. Alan Shepard is first American in space. 1961
78. Max Planck proposes quantum theory. 1900
79. Scientists clone sheep in Great Britain. 1997.
81. Opening of Panama Canal. 1914
83. Space shuttle *Challenger* explodes. 1986
86. Freud publishes *Interpretation of Dreams.* 1900
90. John Glenn is first American to orbit Earth. 1962
92. Pathfinder robot lands on Mars. 1997
95. First "test-tube baby" born healthy. 1978
97. Bill Gates and Paul Allen start Microsoft Corp. 1975.
99. Trial of teacher John Scopes in Tennessee pits creation against evolution. 1925

Urine Therapy

My previous column was about reflexology, the technique of eliminating pain and other symptoms of illness by applying pressure to various spots on the foot. This column concerns an equally crazy therapy that also is currently bamboozling gullible persons captivated by alternative medicines.

From ancient times, folk superstitions have involved the fancied healing properties of three bodily secretions: saliva, excrement, and urine.

These reputed healing properties are detailed ad nauseam in Lynn Thorndike's monumental *History of Magic and Experimental Science.* Here I shall be concerned only with urine, either swallowed, injected, or applied externally to the skin. What follows are a few highlights from Thorndike.

Pliny the Elder, in *Natural History,* extols the healing powers of urine obtained from a virgin boy. Arnald of Villanova, a thirteenth-century Spanish astrologer, alchemist, and physician, claimed that warts would vanish if a dog's urine is applied to them. He also said vision would be greatly improved by washing one's eyes every morning with one's urine. Thorndike further cites an ancient Arabic treatise discussing the healing power of a white elephant's urine.

Urine was a popular folk medicine throughout the seventeenth century. Thorndike gives many references. Emmanuel König, of Basel, in his book *The Animal Kingdom* (1683) recommended drinking one's urine to heal heartburn, depression, gout, toothaches, colic, jaundice, and high fevers. Daniel Bockher, a German physician, in 1622 published a popular work titled *Medicus Microcosmos.* It praises the healing properties of urine, excrement, lice, sperm, tapeworms, and ear wax.

Pierre Fauchard, a Parisian dentist, is considered the founder of modern dentistry. In 1728 he published *Le Chirurgien Dentiste* (*The Surgeon Dentist*), a classic text translated into English in the 1940s. In this work he pokes fun at several ridiculous remedies for toothache, then proceeds to describe a novel remedy of his own. I quote from James J. Walsh's entertaining *Cures: The Story of the Cures that Fail* (1923):

> I have brought a great deal of relief to a number of patients who had nearly all their teeth carious and who as a consequence were often tormented by pains and aches . . . by means of the following remedy. It consists of rinsing out the mouth every morning and also evening . . . with some spoonfuls of their own urine, just after it has been passed . . . it is true that it is not very agreeable, except inasmuch as it brings distinct relief.

Fouchard goes on to say that some of his patients who used this remedy told him that the urine also provided relief from other health problems. Indeed, "experience has shown that urine of healthy persons is very good for relieving the pains of gout and getting rid of obstructions of various kinds throughout the body."

Robert Boyle (1627–1691) was a great British scientist best known to physicists today for "Boyle's law," which states that the volume of a gas varies inversely with its pressure. Thorndike quotes the following passages from Boyle's *Works* (Vol. 2, page 130):

> The medical virtues of man's urine, both inwardly given, and outwardly applied, would require rather a whole book, than a part of an essay, to enumerate and insist on . . . I shall now only add, that I knew an ancient gentlewoman, who being almost hopeless to recover of divers chronical distempers . . . was at length advised, instead of more costly physick, to make her morning draughts of her own water; by the use of which she strangely recovered, and is, for aught I know, still well. And the same remedy is not disdained by a person of great quality and beauty, that you know; and that too after she had travelled as far as the *Spaw* for her health's sake.

Urine therapy is most widely used today in Hindu folk medicine. William Jarvis, writing in the newsletter of the National Council Against Health Fraud (NCAHF) (March/April 1995), reported that India's former Prime Minister (1977–1979) Morarji Desai on his ninety-ninth birthday, in February

Martin Gardner's latest book is Visitors from Oz.

1995, attributed his longevity to a constant drinking of his own urine. In 1978 Dan Rather, on CBS's *60 Minutes*, interviewed Desai, who spoke at length about the great value of drinking urine. *Newsweek* reported (August 21, 1995) that Mohandas Gandhi was a urine drinker, but this was later denied by India's Gandhi Institute.

In the July/August 1991 issue of the *NCAHF Newsletter*, Jarvis cites numerous urine-based remedies that are promoted by ayurvedic medicine. Alcoholism, anorexia, nausea, poor digestion, edema, and other ills respond to "goat feces prepared by washing in urine." For constipation, drink a mixture of milk and urine. Epilepsy and other seizures yield to donkey urine. Urine is called the "water of life" in ayurvedic medicine. G. K. Thakker, director of the Water of Life foundation in Bombay, believes that urine drinking can cure every illness from the common cold to cancer.

Helen Kruger, in her excellent book *Other Healers, Other Cures: A Guide to Alternative Medicine* (1974) has this to say about urine therapy:

> The Chinese used to drink the urine of a young boy as a curative. In some parts of the South, a baby's face is washed with urine to protect the skin. Elsewhere, it's used as a gargle for sore throat and for acne, cuts, and wounds. (Don't scoff. Doctors sometimes prescribe an ointment containing *urea, the chief component of* urine, for skin problems). A Brooklyn woman now in her sixties recalls having had to gargle with her own urine when she had diphtheria as a child. The French had a custom of soaking a stocking in urine and wrapping it around the neck to cure a strep throat. And in the Sierra Madre, the Mexican peasants prepare a poultice for broken bones by having a child urinate into a bowl of powdered charred corn. The mixture is made into a paste and applied to the skin. People have put urine into the eyes to "cure" cataracts, a habit that gives my eye doctor the shudders. It could cause the cataract to grow denser, he says. And only recently, I heard about a new reducing treatment given by some doctor in Florida. The urine of a pregnant woman is injected into the obese patient to "break down the fat cells." (At the same time, however, the patient is put on a near-starvation diet.) Finally, I was told by a healer in Texas (who heard it from "a reliable source" who *knows*) that certain *Hollywood beauties of mature years* keep their youthful appearance by, as she put it, "drinking their own output."

It is true that urea, which constitutes 2 to 5 percent of human urine, has value as an antiseptic, diuretic, and other medical applications. For example, urine from pregnant mares is the urea source for Premarin, made by Ayerst Laboratories. It is used to replace estrogen in women who have passed menopause. No doctor, I hasten to add, recommends that women obtain urea by drinking horse urine.

Among a spate of recent books on urine therapy, one of the most impressive is Martha M. Christy's oversize paperback, *Your Own Perfect Medicine: The Incredible Proven Natural Miracle Cure that Medical Science Has* Never *Revealed!* This book was published in 1994 by Wishland, Inc. My copy is a 1998 fifth printing! You can obtain it from Wishland, P.O. Box 13927, Scottsdale, AZ 85267 (toll free 1-800-554-CURE) for $19.95 plus $5 for shipping and handling. The company also sells Christy's *Healing Yourself With Homeopathy, Scientific Validation of Urine Therapy*, and her audiotape on *The Scientific Validation of Urine Therapy*.

Among blurbs on the back cover of *Your Own Perfect Medicine* are the following remarks by David G. Williams, M.D., of the *Alternative Health Newsletter*: "If you buy only one health book this year, this is the book you should get. It outlines a therapy that can be used by anyone, anywhere, for practically any complaint known." Another comment, "This agent was found to be definitely life saving," is attributed to Dr. Manucher J. Javid, identified as a neurosurgeon at the University of Wisconsin's Medical School, in Madison.

I wrote to Dr. Javid, now retired, to ask what he thought of Christy's book. As I suspected, he was appalled by how she had quoted him out of context. His research, he pointed out in a letter, was on the use of urea to reduce intercranial pressure. Urea, he explained, is not obtained from urine. Calcium cyanamide is dissolved in water, then heated under high pressure to produce urea and calcium hydroxide. Dr. Javid added that he has contacted an attorney to consider legal action for using his name without his knowledge or permission. "I can unequivocally state," he writes, "that the use of urea in medicine should not be extended to endorse any claim for drinking or injecting human urine."

In the first chapter of her book Christy says that between the ages of eighteen and thirty she was diagnosed with pelvic inflammatory disease, ulcerative colitis, ileitis, chronic fatigue syndrome, Hashimoto's disease, and mononucleosis. In addition to these ills, "I had severe chronic kidney infections, *two miscarriages, chronic systitis, severe* candida and external yeast infections along with marked adrenal insufficiency and serious chronic ear and sinus infections. . . . And even though I ate almost nothing because of my extreme food allergies, I actually kept gaining weight. . . . I had become nothing more than a walking encyclopedia of disease."

I was reminded of Henny Youngman's joke about the man who, after his doctor examined him, asked "How do I stand?" "That," said the doctor, "is what puzzles me."

Christy first tried to heal herself using various methods including a *nutrition regime promoted by Adelle* Davis, mega-vitamin therapy, acupuncture, chiropractic, "and every herbal preparation and drug-free natural health therapy" she could find. She says her health started to improve, but, after a difficult childbirth, all her old ailments returned. Doctors told her the symptoms were psychosomatic. She says she alienated every doctor in town by insisting otherwise. She came down with endometriosis—bleeding tumors that result when uterine tissue detaches from the uterus and attaches itself elsewhere. After five operations, she refused to have a sixth. Instead, she checked into an *alternative cancer clinic in Mexico*. The treatments there failed as well. "My usual herbs and homeopathic remedies, although they gave temporary relief,

seemed almost useless." For a year she remained in bed. Even though she had health insurance, she and her husband spent more than $100,000 of their own money on alternative therapies. After another tumor was removed, the endometrial symptoms returned, complicated by a yeast infection and menopausal symptoms.

Desperately ill and severely depressed, even contemplating suicide, Christy came across a book that recommended drinking one's urine. She gave it a try. The result was "almost instantaneous relief" from her symptoms. Her hair, which had fallen out, grew back again "thick and lustrous." She gained weight and her energy returned. She says she now swims, hikes, and rides horseback. "Much to my own and my family's amazement, I am back to work and after thirty years of almost nonstop illness, I have a rich, full life again—and all because of an unbelievably simple and effective natural medicine."

The rest of Christy's book reveals in vast detail how drinking one's urine will cure cancer, multiple sclerosis, malaria, arthritis, AIDS, gonorrhea, jaundice, ringworm, tuberculosis, migraine, hepatitis, whooping cough, hay fever, depression, prostate trouble, diabetes—you name it, urine will cure it. The main component in urine that does all these medical wonders is urea.

Christy correctly calls attention to many drugs now on the market that are based on urea, but she insists that these drugs cause unpleasant side effects that are avoided if you obtain the urea by drinking your own urine. She highly recommends a 1971 book, *The Water of Life*, by John W. Armstrong, available from Home Cure for $11.95 plus $5 for shipping and handling. She says it lists hundreds of ailments, including cancer, cured by urine drinking.

Urine therapy, Christy explains, begins by swallowing only one or two drops a day. Even these few drops, she writes, are very effective. "If you prefer, you can make an extremely diluted form of urine called a homeopathic urine preparation, which gives excellent results and contains no taste nor color." Of course it is tasteless and colorless! All the urine has vanished into the water!

Surgery and mainstream drugs simply don't work, Christy assures her readers. Herbal medicines, homeopathic drugs, and acupuncture do work, but none of these therapies, she says, hold a candle to the powerful curative properties of urine. It is "the most powerful, most individualized natural medicine we could ever hope for." Although pure urea has proved to be a wonderful drug, "I want to stress that it cannot and should not be used to replace or supersede natural urine as a healing agent." Why? Because "whole urine contains hundreds of known and unknown medically important elements . . . not found in urea alone."

Christy's book reveals in vast detail how drinking one's urine will cure cancer, arthritis, tuberculosis, AIDS, and migraine. You name it, urine will cure it.

After a period of swallowing a few drops of urine daily, Christy recommends slowly increasing the number of drops until you finally are drinking several ounces each day. In addition to the value of urine taken internally, Christy also sings its praises when applied externally to the skin, and used in foot baths, fully body baths, ear, nose, and eye drops and enemas. In cases of extreme illness, Christy writes, injection of urine can be called for. She recommends a Dr. William Hitt who runs two urine therapy clinics in Mexico where "he has administered hundreds of thousands of injections to severely ill patients with remarkable success."

Homeopathic urine, Christy says, is extremely potent. The recipe is simple. To one-sixth of an ounce of distilled water, in a sterile bottle, add one drop of urine. Cap the bottle and vigorously shake it fifty times. A drop of this mix is then added to another sixth-ounce of distilled water. Again, shake fifty times. The third dilution is a drop of the mix into a sixth-ounce of 80 to 90 proof vodka. The vodka, she says, "acts as a preservative." Three drops are placed hourly on the tongue until the symptoms of an illness disappear. Christy is also enthusiastic about combining urine drinking with standard homeopathic drugs.

I know of no books defending urine therapy that are not written by persons who also defend other forms of alternative medicine. Beatrice Barnett, coauthor with Margie Adleman of an addle-pated book titled *The Miracles of Urine Therapy* (1987), is a chiropractor and naturopath. According to Jack Raso, in *Alternative Healthcare: A Comprehensive Guide* (Prometheus 1994), Barnett and Adleman list the following side effects of urine drinking: nausea, vomiting, migraine, boils, pimples, rashes, palpitations, diarrhea, uneasiness, and fever, but add that these are "normal" symptoms that one should not worry about!

I would have thought that Andrew Weil, the latest guru to be much admired by those who are down on mainstream medicine, might endorse urine drinking. I was pleased to learn that he does not. In his recent book *Ask Dr. Weil* (1998) he says that although urine may have some value when applied to the skin, drinking it has no value whatever. He cites Christy's book *Your Own Perfect Medicine* as an example of a work not to be trusted.

I do not know whether drinking urine is harmless or not, and would welcome hearing from any knowledgeable physician on this point. You can be sure, however, that there are no toxic effects from drinking homeopathic urine. The reason is simple: You are drinking nothing but distilled water.

I also do not know if Christy's book, and others like it, are cruel hoaxes written and published to make money, or whether the authors believe what they claim. In either case, I shudder at the thought of readers who are seriously ill, and who may be so persuaded that drinking urine will cure whatever ails them that they will not seek medical help that could save their lives. □

INVESTIGATIVE FILES

JOE NICKELL

Paranormal Lincoln

His guiding of the United States through its greatest crisis and his subsequent martyrdom have caused the shadow of the tall, sixteenth president to loom still larger. Called "the most mythic of all American presidents" (Cohen 1989, 7), Abraham Lincoln has long been credited by paranormalists with supernatural powers. These include an early mirror-vision, prophetic dreams, and spiritualistic phenomena. His ghost, some say, even haunts the White House.[1]

In the Looking Glass

Many people have portrayed Lincoln as a man given to belief in omens—particularly those relating to his assassination. An incident often cited in this regard occurred at his home in Springfield, Illinois. Lincoln related it to a few friends and associates, including Noah Brooks in 1864. Brooks shared it with the readers of *Harper's New Monthly Magazine* the following July—three months after Lincoln's death—recounting the president's story "as nearly as possible in his own words":

Figure 1. Double image of author (and of photographer Rob McElroy) reproduces a curious effect experienced by Abraham Lincoln in 1860 and thought by Mrs. Lincoln to be an omen.

> It was just after my election in 1860. . . . I was well tired out, and went home to rest, throwing myself down on a lounge in my chamber. Opposite where I lay was a bureau, with a swinging-glass upon it—[and here he got up and placed furniture to illustrate the position]—and, looking in that glass, I saw myself reflected, nearly at full length; but my face, I noticed, had *two* separate and distinct images, the tip of the nose of one being about three inches from the tip of the other. I was a little bothered, perhaps startled, and got up and looked in the glass, but the illusion vanished. On lying down again I saw it a second time—plainer, if possible, than before; and then I noticed that one of the faces was a little paler, say five shades, than the other. I got up and the thing melted away, and I went off and, in the excitement of the hour, forgot all about it—nearly, but not quite, for the thing would once in a while come up, and give me a little pang, as though something uncomfortable had happened. When I went home I told my wife about it, and a few days after I tried the experiment again, when [with

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> a laugh], sure enough, the thing came again; but I never succeeded in bringing the ghost back after that, though I once tried very industriously to show it to my wife, who was worried about it somewhat. She thought it was "a sign" that I was to be elected to a second term of office, and that the paleness of one of the faces was an omen that I should not see life through the last term. (Brooks 1865, 224–225)

The same story was told by Ward Hill Lamon in his book, *Recollections of Abraham Lincoln.* Lamon was a friend of Lincoln's, a fearless man who accompanied him to Washington for his protection, being given the special title, Marshal of the District of Columbia. In discussing the matter of the double image in the mirror, Lamon stated: "Mr. Lincoln more than once told me that he could not explain this phenomenon" and "that he had tried to reproduce the double reflection at the Executive Mansion, but without success." In Lamon's account it was not Mrs. Lincoln but the president himself who thought the "ghostly" image foretold "that death would overtake him" before the end of his second term (Lamon 1995, 111–112).

In recent years, paranormalists have gotten hold of Lincoln's anecdote and offered their own interpretations. Hans Holzer states that "What the President saw was a brief 'out of the body experience,' or astral projection," meaning "that the bonds between conscious mind and the unconscious are temporarily loosened and that the inner or true self has quickly slipped out" (Holzer 1995, 65).

Such an explanation utterly fails to fit the evidence. Lincoln did not describe an out-of-body experience—a feeling of being outside one's physical self—but, according to Brooks (1865, 225), "The President, with his usual good sense, saw nothing in all this but an optical illusion."

The nature of this optical illusion can be deduced from the circumstances. The double image was of Lincoln's face only, could be seen in a particular mirror but not others, and vanished and reappeared with respect to a certain vantage point. Taken together, these details are corroborative evidence that the mirror was the cause. An ordinary mirror can produce a slight double-image effect due to light reflecting off the *front* of the glass as well as off the silvering on the back. In modern mirrors this is usually not noticeable, and the shift in the image is slight in any event. But in the case of old mirrors, whose glass plates "were generally imperfect" (Cescinsky 1931), a distinct double image might be produced, like that shown in Figure 1. (Unfortunately, the actual mirror-topped bureau Lincoln described is no longer to be found at the Lincoln Home National Historic Site, much of the furniture having been dispersed in earlier years [Suits 1998].)

In recent years, paranormalists have gotten hold of Lincoln's anecdote and offered their own interpretations.

Dreams of Death

The mirror incident sets the stage for claims of even more emphatically premonitory experiences. These were dreams Lincoln reportedly had that foretold dramatic events. One he related to his cabinet on April 14, 1865. The previous night he had dreamed he was in some mysterious boat, he said, "sailing toward a dark and indefinite shore." In another version it was of "a ship sailing rapidly" (Lewis 1973, 290). When Lincoln was assassinated only hours later, the dream was seen as weirdly prophetic. The story grew in the retellings which spread, says Lloyd Lewis in *Myths After Lincoln* (1973, 291) "around the world."

In fact, Lincoln had not thought the dream presaged his death. He had actually mentioned it in reply to General Grant, his guest that Good Friday afternoon, who had expressed worries about General Sherman's fate in North Carolina. Lincoln felt that Sherman would be victorious because, he said, the dream had often come to him prior to significant events in the war. According to Lewis (1973, 290): "For a President of the United States, in a time like the Civil War, to dream that he was sailing rapidly to an unseen shore was certainly not remarkable. Most of his waking hours, across four years, were spent in wondering where the Ship of State was going."

Lincoln supposedly described an even more ominous dream to Mrs. Lincoln, not long before his assassination, then again to Ward Hill Lamon (1895, 115–116) who reconstructed Lincoln's words as follows:

> About ten days ago, I retired very late. I had been up waiting for important dispatches from the front. I could not have been long in bed when I fell into a slumber, for I was weary. I soon began to dream. There seemed to be a death-like stillness about me. Then I heard subdued sobs, as if a number of people were weeping. I thought I left my bed and wandered downstairs. There the silence was broken by the same pitiful sobbing, but the mourners were invisible. . . . Determined to find the cause of a state of things so mysterious and so shocking, I kept on until I arrived at the East Room, which I entered. There I met with a sickening surprise. Before me was a catafalque, on which rested a corpse wrapped in funeral vestments. Around it were stationed soldiers who were acting as guards; and there was a throng of people, some gazing mournfully upon the corpse, whose face was covered, others weeping pitifully. "Who is dead in the White House?" I demanded of one of the soldiers. "The President," was his answer; "he was killed by an assassin!" Then came a loud burst of grief from the crowd, which awoke me from my dream. I slept no more that night; and although it was only a dream, I have been strangely annoyed by it ever since.

Lamon's account may be true, although he has been criticized for having "fed the fire of superstition that people were kindling about the name of

Lincoln" (Lewis 1973, 294). In fact, however, Lamon had added a sequel to the story which is invariably ignored:

> Once the President alluded to this terrible dream with some show of playful humor. "Hill," said he, "your apprehension of harm to me from some hidden enemy is downright foolishness. For a long time you have been trying to keep somebody—the Lord knows who—from killing me. Don't you see how it will turn out? In this dream it was not me, but some other fellow, that was killed. It seems that this ghostly assassin tried his hand on some one else." (Lamon 1895, 116–117)

In any event, that Lincoln should have dreamed of assassination—even his own—can scarcely be termed remarkable. Prior to his first inauguration in 1861, Pinkerton detectives had smuggled Lincoln into Washington at night to avoid a change of trains in Baltimore where an assassination plot had been uncovered (Neely 1982, 16–17). Lincoln had subsequently "received untold number of death threats" (St. George 1990, 66), and on one occasion had a hole shot through his top hat by a would-be assassin (Neely 1982, 282).

Among the Spirits

Lamon (1895, 120) insisted that Lincoln "was no dabbler in divination—astrology, horoscopy, prophecy, ghostly lore, or witcheries of any sort." Yet soon after his death spiritualists sought to use Lincoln to give respectability to their practices by citing the occasions he had permitted séances in the White House, as well as to claim contact with his own departed spirit. The extent of Lincoln's involvement with spiritualism has been much debated.

Actually, it was *Mrs.* Lincoln who was involved with spiritualists. She turned to them in her bereavement over the death of Willie, the Lincolns' beloved eleven-year-old son who died of "bilious fever" in 1862. One such spiritualist medium was Henrietta "Nettie" Colburn (1841–1892). Mary Todd Lincoln met her at a "circle" or séance at the Georgetown home of Cranstoun Laurie, chief clerk of the post office in Washington. On one occasion, a séance with Nettie was being held in the White House's Red Parlor when the president stumbled upon the group and watched with curiosity. Another time he accompanied Mary to a séance at the Lauries' home. At least one biographer has suggested that Lincoln's marginal involvement may have stemmed from a desire "to protect his gullible wife" (Temple 1995, 199).

That was exactly what Lincoln did with regard to a trickster named Charles J. Colchester. Styling himself "Lord *Colchester," he conducted séances* wherein "spirit rappings" were produced. A concerned Lincoln asked Dr. Joseph Henry (1797–1878), the secretary of the Smithsonian Institution, for his advice about Colchester, whereupon Dr. Henry invited the medium to give a demonstration at his office. The scientist determined that the sounds came from Colchester and he suspected trickery. Later, Noah Brooks caught the medium cheating and warned Colchester not to return to the Executive Mansion (Temple 1995, 200). Lincoln himself was not interested in séances, but, according to Lloyd Lewis's *Myths After Lincoln* (1973, 301), "In these dark hocus-pocuses Mrs. Lincoln found comfort, and Lincoln let them go on for a time, careless of whether the intellectuals of the capital thought him addle-pated or no."

Mrs. Lincoln turned to spiritualists in her bereavement over the death of their beloved son Willie, who died in 1862.

Spectral Visits

It is ironic that Lincoln did not believe in spiritualism, since his ghost is now reportedly so active. Although his Springfield home is decidedly *un*haunted, according to curator Linda Suits (1998), who says neither she nor anyone she knows has had a ghostly encounter there, other places compete for attention. There have been numerous reported sightings of Lincoln's ghost at his tomb in Springfield as well as at Fort Monroe in Virginia and, in Washington, at both the White House and Ford's Theater (where Lincoln was assassinated) (Cohen 1989, 11; Winer and Osborn 1979, 125; Jones 1996, 15).

Understandably, perhaps, it is the White House that seems to receive the most attention—especially the "Lincoln Bedroom" (which, in Lincoln's time, was actually his office). The notion that his ghost frequents the *stately rooms and corridors doubtless* began with Mrs. Lincoln's post-assassination séances and it was probably given impetus by a figurative remark made by President Theodore Roosevelt (who served from 1901–1909): "I think of Lincoln, shambling, homely, with his strong, sad, deeply-furrowed face, all the time. I see him in the different rooms and in the halls" (St. George 1990, 84). Such feelings are still common and may trigger sightings among imaginative people and those predisposed to see ghosts. The first person to report actually seeing Lincoln's ghost was Grace Coolidge (First Lady from 1923 to 1929), who saw his tall figure looking out an Oval Office window (Scott and Norman 1991, 74; Cohen 1989, 10). During her tenure, guests were lodged in the "Lincoln bedroom" and "Every newcomer was informed of the legend that when the great light over the front door was dimmed for the night the ghost of Abraham Lincoln was supposed to pace silently to and fro on the North Porch" (Ross 1962, 109).

Among subsequent Lincoln sightings was one by Queen Wilhelmina of the Netherlands (who had a prior interest in spiritualism). She was a guest of

President Franklin D. Roosevelt when she heard a knock during the night at her bedroom door. Opening it, the drowsy queen saw the figure of Abraham Lincoln looking down at her, causing her to swoon (Ronan 1974, 40; Cohen 1989, 10). Religious leader Norman Vincent Peale claimed that a prominent actor (whom he would not name) had been a White House guest when he awoke to Lincoln's voice pleading for help. The actor sat up to see "the lanky form of Lincoln prostrate on the floor in prayer, arms outstretched with fingers digging into the carpet" (Winer and Osborn 1979, 135). And President Reagan's daughter Maureen said she had occasionally seen Lincoln's ghost—"an aura, sometimes red, sometimes orange"—during the night. So had her husband Dennis Revell (Caroli 1992, 39).

These examples are typical of many ghost sightings that are due to common "waking dreams," an experience that occurs when someone is just going to sleep or waking up and perceives ghosts, lights, or other strange imagery (Nickell 1995, 41, 46). Other apparitions are most likely to be seen when one is tired, daydreaming, performing routine chores, or is otherwise in a reverie or dissociative state (see e.g., Mackenzie 1982). This may help explain sightings such as one by Eleanor Roosevelt's secretary, who passed by the Lincoln Bedroom one day and was frightened to see the ghostly president sitting on the bed and pulling on his boots (Alexander 1998, 43; Jones 1996, 8).

Once the notion of a ghost is affixed to a place, almost anything—an unexplained noise, mechanical malfunction, misplaced object, or the like—can be added to the lore. For example, on one of my appearances on "The Michael Reagan Show," Mike told me an anecdote about his father and their dog, Rex. According to President Reagan, when passing the Lincoln Bedroom Rex would often bark but would refuse to enter the room (Reagan 1998; see also Caroli 1992, 39, and Alexander 1998, 45). Mike related the story as more of a novelty than as proof of a supernatural occurrence. (President Reagan's daughter, Patti Davis, once asked her father if he had ever seen Lincoln's ghost. "'No,' my father answered—a bit sadly, I thought. 'I haven't seen him yet. But I do believe he's here'" [Davis 1995].) Neither the Bushes nor, as far as they could tell, their dog Millie ever saw the ghost of Lincoln, or indeed any of the other historical specters who are occasionally reported (Alexander 1998, 45).

Not all of the reports of Lincoln's ghost, however, have featured apparitions. In earlier times there were frequent reports of sounds that were variously interpreted, some describing them as heavy footfalls (Cohen 1989, 10; Jones 1996, 8), others as knockings at the door, with Lincoln's ghost typically being thought responsible. Not only Queen Wilhelmina but also "Presidents from Theodore Roosevelt to Herbert Hoover and Harry Truman all said they heard mysterious rappings, often at their bedroom doors" (Scott and Norman 1991, 74). However, ghosthunter Hans Holzer (1995, 70) concedes: "President Truman, a skeptic, decided that the noises had to be due to 'natural' causes, such as the dangerous settling of the floors. He ordered the White House completely rebuilt, and perhaps this was a good thing: It would surely have collapsed soon after, according to the architect, General Edgerton."

* * *

For all his greatness Abraham Lincoln was of course human. Among his foibles were a tendency to melancholy, a sense of fatalism, and a touch of superstition from his frontier upbringing. However, as this investigation demonstrates, neither his life nor his death offers proof of paranormal or supernatural occurrences—not his very human apprehensions of mortality, not his wife's sad seduction into spiritualism, and not the evidence, even if expressed as anecdotes of ghostly apparitions, that his great legacy lives on.

Acknowledgments

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Note

1. Among other implicitly paranormal claims relating to Lincoln are the "mysterious coincidences" that are often claimed between him and President John F. Kennedy. See Martin Gardner, *The Magic Numbers of Dr. Matrix* (Buffalo: Prometheus, 1985) and Bruce Martin, "Coincidence: Remarkable or Random?" SKEPTICAL INQUIRER 22(5) (September/October 1998): 23–28.

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Bigfoot's Screen Test

Recent analyses propose that the 1967 film of "Bigfoot" documents a large, feral nonhuman primate unknown to modern science. Known sources of measurement error and existing data on human locomotion suggest a more cautious conclusion.

DAVID J. DAEGLING and DANIEL O. SCHMITT

Of the varied sources of evidence invoked to support the existence of Bigfoot, none is more widely cited than the 1967 film of a large, hairy bipedal figure walking along the Bluff Creek drainage in northern California. Known as the Patterson-Gimlin film, this short motion picture (less than one minute running time) has generated considerable controversy with respect to its authenticity. The film depicts a burly figure walking deliberately away from the cameraman. The footage is often blurry due to excessive camera movement. In the most famous frame, the film subject turns its head and shoulders toward the camera to peer at its pursuer. Details of the subject's physiognomy cannot be discerned.

Recently, three independent studies have presented arguments suggesting that fabrication of the film would have been unlikely or impossible given the technology of the day. The implication, therefore, is that giant, bipedal primates have inhabited wilderness areas of the Pacific Northwest in recent times, yet have remained undiscovered by wildlife biologists and unrecognized among the mainstream scientific community.

In separate studies, Chris Murphy of Progressive Research[1] and Jeff Glickman of Photek and the North American Science Institute (NASI),[2] achieved a remarkable convergence of results when both investigators concluded, via different methods of estimation, that the film subject stood fully 7'3 1/2" (222 cm) tall. Glickman's study (1998) also concluded that the chest of the figure measured a hefty 83" in circumference and that the film subject weighed in at 1,957 pounds.

In his book *Big Footprints* (1992), Grover Krantz makes two claims with respect to the film. First, Krantz argues that no human exists whose body dimensions match those of the film subject, even given the effects of a furry costume. Second, he claims that the kinematics of the film subject are decidedly nonhuman, that the gait could not be duplicated by a person wearing a costume.

Drawing by Jake Page

In essence, two claims seriously undermine the hypothesis that the Patterson-Gimlin film is a hoax: (1) that the film subject's body dimensions are outside the range of human variation, and (2) that the gait of the film subject cannot be duplicated by a person.

In this report, we argue that the exact dimensions of the film subject are unknowable and that the gait of the film subject is easily reproducible by human beings of average stature. Neither of these arguments demonstrate that the subject of the film is not a Bigfoot; we simply wish to point out that recent trumpetings in cyberspace about the film's authenticity may not enjoy a solid empirical foundation.[3]

Analyzing the Claims

It is alleged that the film subject left tracks on the Bluff Creek sandbar, which were cast subsequent to filming. The tracks measured 14 1/2" in length. About ten days after the film was made, Bigfoot investigator Bob Titmus reconstructed the subject's course of travel during filming and attempted to establish the position of Roger Patterson's camera during the event. These reconstructions were performed without a measuring tape or camera[4]; quantitative efforts to map the positions of the cameraman and film the subject were made in subsequent years.[5] Thus, we know the general course of travel of the film subject but not its exact traverse (cf. Byrne 1975, Green 1981).

Recent trumpetings in cyberspace about the Bigfoot film's authenticity may not enjoy a solid empirical foundation.

Murphy assesses the subject's height by taking a known quantity—subject heel width from footprint casts—and using this scalar as a calibration standard to determine film subject dimensions. Given the heel calibration and a "stoop factor" correction, he arrives at the stature of 7'3 1/2". Murphy suggests that a stick recovered from the film site years after the event is also an appropriate calibration standard because the subject ostensibly is seen stepping over this stick during the film. Using this independent criterion, he obtains the same result.

In the NASI report, Glickman employs a third method that also yields the same height for the film subject. His method involves using a later photograph from the film site of an individual of known height, purportedly standing along the original path of the film subject, as a basis from which to determine the film subject's dimensions. This calibration photograph was taken by long-time Bigfoot investigator Peter Byrne five years after the film was made, and Glickman uses the alignment of dead trees that appear in the background of the film to match the photo with the relevant film frames.

Murphy and Glickman recognize that for a calibration standard to be valid, the object used for calibration must be coplanar with the film subject,[6] such that the calibration object and subject are equidistant from the optical axis of the camera.

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It is also well-established that, in order to minimize error, a calibration standard must be sufficiently large relative to the object being measured. Given the uncertainty of subject position in the film, it is not clear that objects chosen for calibration purposes lie completely within the intended reference plane. The dimension to be used in calibration and the subject of interest must be positioned equidistant to the camera lens to provide accurate measurement. Thus, a scalar dimension (a known quantity with which to scale other dimensions on an object or image) measured from a calibration standard that is not exactly coincident with a reference plane, even if that standard occupies a point in that plane, will yield uncorrectable errors if this obliquity is present (i.e., the standard is not aligned with the reference plane) but its degree is not known.

For the same reason, measurement error can occur if scalar dimensions and the subject occupy a desired reference plane but when the camera's optical axis is not positioned perpendicular to that plane. This problem becomes particularly acute in the context of the Patterson-Gimlin film because camera position was not controlled relative to the subject's movements along a path defining the reference plane; thus, "coplanar" standard and subject may not be equidistant to the camera lens. Objects that are actually not coplanar may appear to be so if the camera lens is obliquely set relative to the true plane of reference.

Testing Measurement Error

To illustrate the problems posed by these sources of error, we estimated a human subject's stature from videotape recordings using calibration objects of known dimension as scalars under ideal laboratory conditions. One of us (Daegling) was filmed at a distance of 490 cm from the camera (Figure 1). Three sources of calibration were used: a two-meter standard, Daegling's foot length, and his heel width. These standards were digitized on the image[7] and used to estimate Daegling's true height (194.5 cm). As expected, the two-meter standard yielded a very good estimate of stature (193.6 cm). Repeated measures within observers indicated that digitizing error was negligible, and the between-observer standard deviation was a respectable 0.44 cm. Using Daegling's foot length as a standard, the error increases markedly (204.3 cm or 3 percent above the true value). Using a heel-width calibration standard the error balloons to 28 percent (249.4 cm, with pronounced inter-observer error [sd=6.5]). These figures make no allowance for camera obliquity or objects off the intended reference plane. If either of these factors are introduced, errors will increase. For example, when foot length is offset from the reference plane by 10 degrees but the length of the foot is considered to be the same as before, stature estimates are off by about 10 percent (214.9 cm). At a 20-degree offset, the overestimate is about 17 percent (227.7 cm). The degree to which the foot is out of plane cannot be reliably assessed from an image unless an independent scalar exists *in the plane of reference.* Ostensibly Murphy has another scalar in the stick

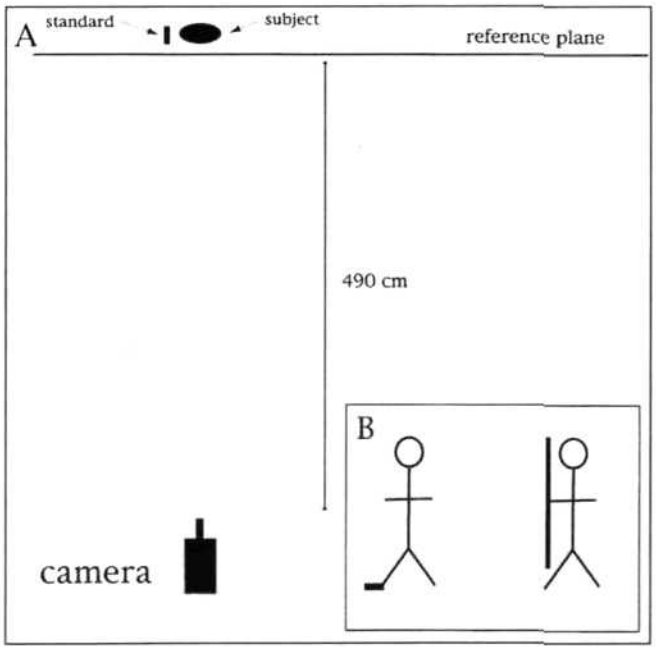

Figure 1. A. Bird's-eye view of ideal conditions for quantitative analysis. Both calibration standard and subject of interest occupy a reference plane that is situated perpendicular to the optical axis of the lens. A scalar similar in size to the subject and that occupies the greatest amount of viewing volume is preferred. Smaller scalars yield larger errors.

Figure 1. B. The accurate estimation of a dimension (stature in this case) is dependent on the error with which a calibration standard can be measured. A 1 cm error in digitizing a standard may be tolerable in a yardstick (right), but will yield poor estimates of stature if made on a smaller object (a foot, left).

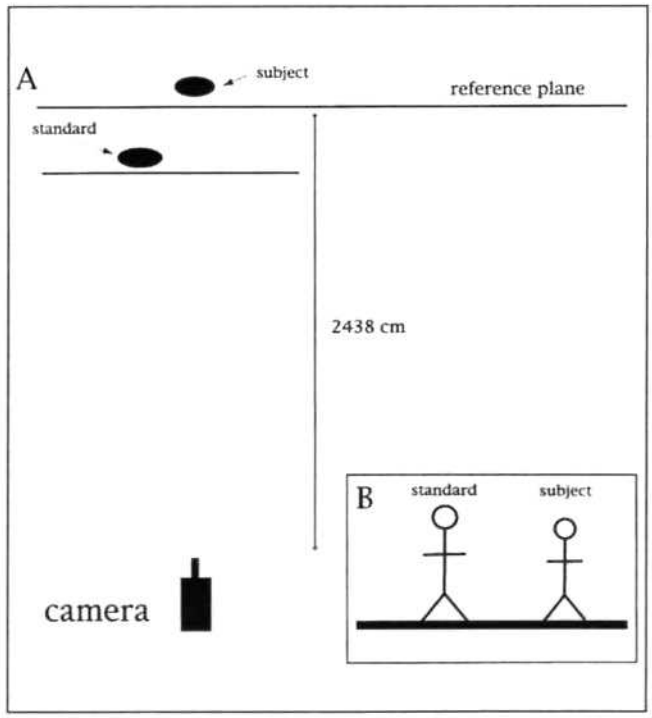

Figure 2. A. When calibration standard and subject do not occupy the same reference plane, errors in estimating subject parameters are inevitable.

Figure 2. B. Is the standard bigger than the subject or simply out of plane? Even if the out-of-plane position of the standard can be detected, the degree to which it is removed from the reference plane cannot be evaluated from the image.

over which the film subject steps early in the film. Not only is this calibration object relatively small, but there is also no way to verify that the long axis of the stick (the intended scalar dimension) is perpendicular to the camera lens. These observations suggest that the magnitude of error introduced in Murphy's method is unknown, is probably unacceptably large, and cannot be corrected given the known parameters of the film.

Glickman's method is far superior since the calibration standard is relatively large.[8] It is asserted that the film subject's course of travel in Figure 6 of the NASI report and the standard included in the figure (an individual at the film site) occupy the intended reference plane. The report does not specify how the coincidence of film subject and standard in this plane is verified. The calibration standard was scaled by superimposing dead trees from the background of the 1972 photograph onto the 1967 film. There may be errors associated with this superimposition, but their magnitude is not known. In any case, this alignment, however precise, does not establish that the standard and the film subject are coplanar. The likelihood exists that there are out-of-plane errors in Glickman's calculations.

Again under ideal laboratory conditions, a subject (179 cm tall) and a calibration standard (Daegling's standing height) were filmed with the lens perpendicular to the reference plane 80 feet (2,438 cm) away (Figure 2), a distance comparable to estimates of the distance of the film subject from the camera at the onset of what is regarded as the best sequence of footage.

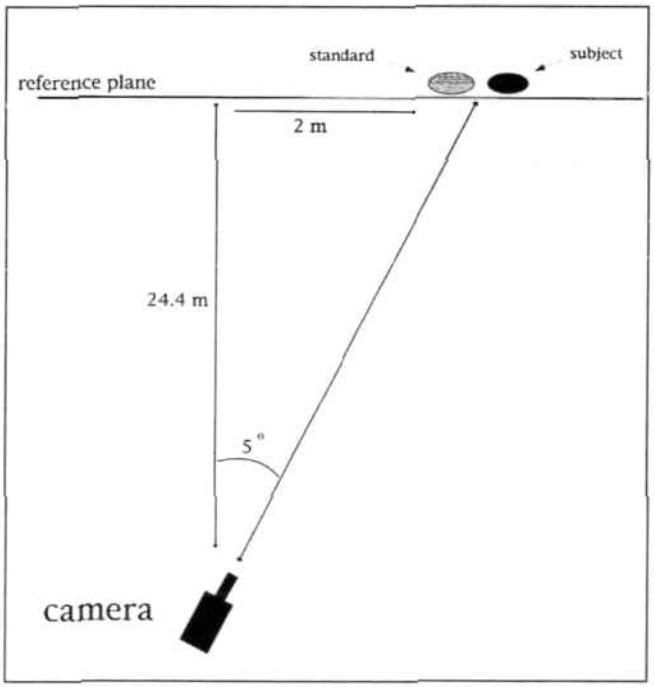

Figure 3. If the optical axis of the camera is not perpendicular to the intended reference plane, the calibration standard will not correctly estimate subject dimensions. This may also have the illusory effect of making out-of-plane objects appear coplanar (i.e., equidistant from the camera). In the example shown here, standard and subject are 60 cm apart but the standard underestimates subject stature by over 8 percent. The camera rotation requires definition of a new reference plane and repositioning of the standard for accurate estimation of subject parameters. Figure is not to scale.

Table 1. Striding and Compliant gaits

Subject	Gait type	speed (m/sec)	stride length (cm)
Daegling	striding	2.1 (0.18)	216 (7.6)
	compliant	3.1 (0.15)	293 (10.7)
Schmitt	striding	2.2 (0.34)	208 (15.9)
	compliant	3.0 (0.08)	288 (6.5)
Subject #3	striding	2.5 (0.59)	224 (53.2)
	compliant	3.8 (0.31)	338 (22.8)
Subject#4	striding	2.2 (0.14)	201 (13.1)
	compliant	2.9 (0.10)	269 (9.7)
film subject	compliant	16 fps 1.9	237–310
		18 fps 2.1	
		24 fps 2.8	

Means and standard deviations are given for N=4 (Daegling & Schmitt), N=6 (subject #3) and N=10 (subject #4) trials. Statures are 194.5 cm (Daegling), 188 cm (Schmitt), 176 cm (subject #3, an adult male), 183 cm (subject #4, another adult male), and 222 cm (film subject, Glickman's estimate). Speeds and stride lengths are calculated from forced, high-speed walks in human subjects. Stride for the film subject is given as a range of estimates (Perez 1992; Glickman 1998). Film speed is not known, so three estimates for subject velocity are given for different film speeds (D.W. Grieve, reprinted in Byrne 1975). Claims that the film subject walks too fast for a human are countered by the observation that compliant gaits can increase walking speed to match or exceed that of the film subject.

When positioned in the reference plane with the subject, the standard (Daegling) provides an excellent estimate of subject height (178.4 cm, an error below 1 percent). When the standard is out of plane by only 1 m (closer to lens) the subject's apparent height is 172.3 cm, nearly 4 percent less than the true stature. As the standard moves even closer to the camera and increasingly out of plane, the error is exacerbated; true stature is underestimated by nearly 15 percent (152.4 cm) at a position 4 m out of plane.[9]

These errors assume that the lens is positioned perpendicular to the reference plane, to satisfy the need for calibration object and subject to be positioned equidistant from the optical axis of the camera lens. The various sketches reconstructing camera and subject position in the Patterson-Gimlin film, however, suggest that the camera was only intermittently, if ever, fully perpendicular to the reference plane.[10] This would result in dissimilar distances of calibration object and film subject from the camera lens, with attendant errors in stature estimation. How serious is this problem? When we rotated the camera 5 degrees off an intended reference plane (Figure 3), a calibration standard of 176 cm failed to predict Schmitt's stature of 188 cm with acceptable accuracy, even though scalar and subject were "coplanar." The apparent stature was 172 cm, fully 8 percent smaller than true stature.[11]

Glickman suggests that the error of his estimate of the film subject may be on the order of one inch (< 3 cm) although no error analysis is provided to verify this. If this error magnitude is to be accepted, the following conditions must have been

met: (1) the lens was positioned perpendicular to the reference plane in which measurements were made, (2) the subject and calibration object were both positioned in the plane of reference such that they are equidistant from the optical axis of the lens, and (3) the scalar dimension measured on the calibration object was precisely in line with the reference plane (i.e., not off-angle relative the camera lens). Published material to date does not demonstrate that these conditions apply.

Glickman's estimates of other subject parameters derived from linear measurements (specifically, chest circumference and body weight) will have errors compounded in the process of calculation. He bases his estimate of chest circumference on a formula for an ellipse that uses linear estimates of chest depth and width as minor and major axes. To reconstruct these axes, Glickman attempts to correct for out-of-plane rotation of the subject's chest. Given the uncertainty of subject position, camera position, and the lack of an accurate independent scalar in the film, it is virtually inconceivable that a mathematical correction would yield a true estimate (see Miller and Petak 1973; Noss 1967; Schmitt 1994; Chan 1997). Glickman uses an allometric equation based on living primates to calculate a body mass for the film subject of 1,957 lbs.—absurdly large unless one wishes to posit that Bigfoot is constructed of nonstandard biological tissues.[12]

Krantz's estimate of the film subject's stature is 6'6" (198 cm), well within human limits, but he argues that the chest width of the subject is incompatible with the human form: "I can confidently state that no man of that stature is built that broadly."[13] Assuming that these parameters are measured without error, this assertion may be refuted by a quick consultation of the *Anthropometric Source Book* (1978). Chest width is measured by Krantz in the same fashion as a distance known as "interscye" in the anthropometric literature. In a sample of 1,004 men of the German Air Force, interscye of the ninety-fifth percentile is 49.6 cm, a good 3 cm larger than Bigfoot's impossibly wide thorax. The ninety-fifth percentile stature is 187.1 cm in this group, less than 4 inches shorter than the film subject. Unless Krantz would argue that taller Air Force personnel necessarily have narrower chests, his confident statement is admirable for its faith but not its veracity.

Nonhuman Locomotion?

Bigfoot proponents have suggested that the high-velocity, flexed-hip, flexed-knee gait of the subject, which also walks with its trunk pitched slightly forward, is absolutely nontypical of human locomotion. Krantz again opines, "[J]udging from the way it walks, there is no possibility that the film subject can be a man in a fur suit."[14] Repeated viewings of the film suggest that, indeed, the subject does not exhibit the normal striding gait of human bipedalism. But humans are capable of locomotion that involves deeper flexion of the knees and hips similar to that seen in the film subject, and this type of locomotion (a "compliant gait," Alexander 1992) has been studied under controlled conditions (Yaguramaki et al. 1995; Li et al. 1996; Schmitt et al. 1996; Cook et al. 1997). Two features of the subject's gait that Krantz asserts are atypical of humans are in fact observable in humans who utilize a compliant gait: (1) reduction of vertical oscillations of the head and trunk typical of striding bipedalism, and (2) an extended period of support (weight-bearing) phase during a locomotor cycle (McMahon et al. 1987; Alexander 1992; Schmitt et al. 1996). Bigfoot investigators have also remarked upon the apparent high speed of the film subject's gait and the length of its stride as being beyond human capability.[15] When a compliant gait is employed, however, there are two measurable effects: It is possible to walk faster, and the stride length is increased (Table 1). Glickman's calculated stride length for the film subject is 237 cm. This figure is easily surpassed by the authors and two other measured subjects, all of whom are less than 200 cm tall. Reported stride lengths based on footprints at the film site range from 284 cm to 310 cm (Perez 1992). A human over 200 cm tall could be expected to match or exceed these higher figures using a compliant gait.

The film's subject does not exhibit the normal striding gait of human bipedalism. But humans are capable of locomotion that involves deeper flexion of the knees and hips similar to that seen in the film subject.

Another peculiarity of the film subject is the forward pitch of the trunk during locomotion. This is again atypical of striding bipedalism, but when humans do adopt this strange posture, a compliant gait becomes the obligate form of bipedalism (Yaguramaki et al. 1995). Assertions that the kinematics of the film subject cannot be duplicated by human agents are thus demonstrably false.

There remains the remarkable coincidence that independent studies have yielded identical results for stature of the film subject. Does this not "validate" the results in the tradition of rigorous science? Perhaps it would if Murphy's study did not involve a fudge factor in the form of a "stoop correction" that can be arbitrarily applied to the stature estimate.[16] This observation, in addition to the enormous potential for calibration errors in Murphy's study, suggests that the convergent results are most charitably regarded as a happy coincidence.

Conclusion

Bigfoot proponents have long decried the undeniable fact that detailed scientific investigation of the Patterson-Gimlin film has been lacking. There are, however, intractable difficulties involved in obtaining reliable data from image analysis where conditions are far from ideal. The potential for calibration errors in analyses of the Patterson-Gimlin film has undermined attempts to extract quantitative data from it.

Uncertainties in subject and camera positions doom quan-

titative analysis of this centerpiece of Bigfoot lore, as do the additional problems posed by poor image quality and artifacts of subject and camera movement. Just as measurement of film parameters and qualitative assessment of kinematics cannot demonstrate that the film subject is nonhuman, there are probably no means by which to demonstrate conclusively that the film subject represents a human agent either. Based on our analysis of gait and problems inherent in estimating subject dimensions, it is our opinion that it is not possible to evaluate the identity of the film subject with any confidence. Consequently, the Patterson-Gimlin film does not provide unequivocal proof of Bigfoot's existence, nor can the film be used to substantiate other putative images of Bigfoot (e.g. the Redwoods "playmate" video).

Acknowledgments

We owe a great debt to many individuals who provided invaluable information regarding the film and the circumstances surrounding it. First and foremost, Rene Dahinden has unfailingly given his time to provide background on the film. Michael Dennett is also thanked for his efforts in obtaining various bits of obscure but critical detail. Peter Byrne of the now-defunct Bigfoot Research Project graciously provided assistance in the early phases of this investigation. Andrew Trueblood assisted with data acquisition and analysis. Marnie Wiss provided editorial expertise and substantive criticism of earlier drafts.

Notes

1. Progressive Research is a British Columbia-based organization investigating Bigfoot evidence and marketing Bigfoot merchandise. Murphy's research results are posted on the Internet Virtual Bigfoot Conference (IVBC) established by Henry Franzoni. Readers may access the conference at www.teleport.com/~caveman/ivbc.html. These results are also summarized in *NASI News* (Vol. I).

2. Glickman is a certified forensic examiner who specializes in image enhancement and reconstruction. He has served as the executive director of the North American Science Institute (NASI), an organization dedicated to getting to the bottom of the Bigfoot phenomenon. His research results appear in "Toward a Resolution of the Bigfoot Phenomenon," a 1998 publication of the institute.

3. Chris Murphy's IVBC posting of June 9, 1997, states, "With the current findings, there is little room for doubt on the reality of the creature in the Patterson-Gimlin film. In other words, it was NOT a hoax." Similarly incautious conclusions can be found peppered throughout the various Web sites dealing with Bigfoot.

4. Rene Dahinden, personal communication, July 15, 1998. Dahinden has been involved in Bigfoot research for over forty years, and has been investigating the circumstances of the Patterson film since it was made in 1967.

5. John Green mapped the site in June 1968, Rene Dahinden did so in 1971, and Peter Byrne undertook the task in 1972. Grover Krantz used Titmus's schematic and his own analysis of the film to produce a revised diagram. The various schematics are in general agreement but differ in details of the exact path of the film subject and its relation to the camera.

6. Of course, subject and object may always be said to be coplanar, except that registration of two points does not define a *unique* plane. To establish that objects are coplanar requires registration of at least three points, or a line and a point. In the case of the Patterson film, the desired reference plane corresponds to the vertical extension of the "line" of travel of the film subject.

7. Images were digitized using Peak Performance software, Motus 4.0. Englewood, Colorado. To eliminate any of our own bias in assessing calibration errors, we used a "blind" measurement protocol. Five individuals, who were not informed of study objectives were asked to measure calibration standards. Each individual was then asked to measure subject stature for each test in a randomized design (e.g., individual 1 would measure stature based on individual 3's calibration, and no individual had knowledge of true values of calibration standards or subjects). Values reported in the text represent the mean value over five observations.

8. While the calibration object is of preferred size, the fact that both subject and this object are small relative to the viewing volume is less than ideal for quantitative analysis.

9. Subject height will be similarly overestimated if the standard is positioned behind the subject. Ironically, as the distance of subject and standard from the lens increases, the errors will be smaller for a given distance that they are off-plane, but they will still exist. At ever-increasing distances, however, image quality may deteriorate. This may be especially true in cases where objects are small within a film frame, as occurs throughout the Patterson-Gimlin film.

10. Schematic drawings by Krantz, Titmus, Dahinden, and Green are reproduced in *Bigfoot at Bluff Creek* by Danny Perez, 1992, Center for Bigfoot Studies, Norwalk, California.

11. With respect to conditions of the Patterson-Gimlin film, the magnitude of this source of error depends on the interactive effects of (1) the degree of obliquity of the lens' optical axis relative to the intended reference plane, (2) the distance of subject and standard from each other, and (3) the distance of each from the camera lens.

12. Assuming the film subject has a density similar to water (reasonable for most animals), one can model the subject as a water-filled cylinder and mathematically "weigh" it, with no allowance for tapering of the head or lower limbs. This procedure produces a very rough high-end estimate of mass. Assuming Glickman's estimates are accurate, this cylinder weighs 1,625 lbs., well below the 1,957 lb. figure given in the NASI report. The nearly one-ton Bigfoot weighs nearly five times more than a large male gorilla and outweighs the heaviest polar bears by over 200kg (McDonald 1984).

13. Page 118, *Big Footprints.* It is unclear whether "that stature" to which Krantz refers is his own or the film subject's. For the subsequent argument, it scarcely matters.

14. Page 115, *Big Footprints.*

15. Rene Dahinden (personal communication and Perez 1992) reports that, on one of his numerous visits to the film site, he and others present were incapable of walking the distance traveled by the film subject in the time that it did so (assuming a film speed of 24 fps).

16. Calculation of a "stoop correction" is unnecessary in any case: one can measure body segments regardless of their orientation to one another and sum these to arrive at stature.

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Tracking Bigfoot on the Internet

Two years of "hunting" Bigfoot in cyberspace tells you little about the never-confirmed giant bipedal creature but a lot about those who hunt for it. Some are sincere searchers; for others, the idea is a complex and flexible belief system that serves multiple needs and roles.

DAVID MATTHEW ZUEFLE

I was exploring the Web in the fall of 1995 when I came across the opportunity to sign up for a new listserver. I was already a subscriber to a couple of academic lists, but this was something different. I was surfing the latest sites when I found a "Bigfoot" listserver and discussion group (actually, there are dozens of other sites on this topic that are also currently accessible). That's right, Bigfoot, also known as Sasquatch. I thought twice about signing up, but I plunged ahead, justifying it to myself by thinking of the opportunity to simultaneously observe a small subculture within the raging paranormal community and to hone my own skills of critical thinking and skepticism.

My interest in this particular subject goes back to my youth.

I had always heard tales of Bigfoot and similar creatures as a child in southern Ohio (I think the term for our local equivalent was the "woollybarger"), and I remember the anxiety I felt on camping trips, wondering if Bigfoot might show up around the campfire. I had seen the documentaries and read the stories as a kid. Years later, as a more skeptical adult working in the natural resources field in upper Appalachia, I heard plenty of stories from park visitors about Bigfoot and its buddies: hoop snakes (they bite their tails to form a wheel, then chase you around), milk snakes (those are the nocturnal ones that surreptitiously drink the milk from cows' teats—*udderly* ridiculous), phantom panthers, and mothman (that's a whole other story). The stories went further than the classic "urban legends" invariably related by a friend-of-a-friend; these folks often claimed to have seen these critters firsthand—and they were adamant about their stories. Now here I was as a young academic, confronted with the phenomenon again, right on my office computer. At least, I thought, it would make for interesting reading. It did.

Eavesdropping on the Bigfoot Bunch

For the first year or so I mainly laid low. I did manage to pick up on some information that became one of the seeds for an earlier SKEPTICAL INQUIRER article (D. M. Zuefle, "Swift, Boone, and Bigfoot: New Evidence for a Literary Connection," January/February 1997), but mainly I just read and deleted a lot of posts—sometimes I just deleted. The frequency of the posts was an interesting aspect of the list. Unlike the several academic listservers I subscribed to, where posts were sometimes few and far between, these folks really participated. Both the frequency and content of these posts clearly fluctuated with the airing of topically related television programming (e.g., *The X-Files*, A&E documentaries).

Although I never saw a list of the subscribers, there must have been many. Even more interesting was the *kind* of folks who were participating. I would have guessed that the majority of the subscribers might be overly imaginative teenagers (and perhaps many were), but at least a few participants were more sophisticated. Undoubtedly, given the environment of the Internet, some of the list members were kooks or pure hoaxers, but it was usually possible to identify many of these persons in short order. Among the rest of the members with verifiable identities, who seemed to compose the majority, one could find nurses, businessmen, attorneys, and professors. Some of the academics were just curious; others were social scientists and folklorists, probably doing some research of their own. But some were research scientists, anthropologists, and biologists. The credulity evinced by some members of this group intrigued me the most. Most list members admitted that they had never actually seen Sasquatch, but several told of "strange sounds and odors" they had experienced out-of-doors that had convinced them of its existence.

Bigfoot Camps

Before I subscribed to the list, I had assumed that most of the participants believed that Bigfoot represented the vestigial population of an as-yet-undiscovered species of the Pacific Northwest. True, this was one of the theories circulating, but as far-fetched as it seems, it was by far the most believable. It turns out that there are two main "camps" in this debate: those adhering to the aforementioned "biological entity" position, and those who believe in a "paranormal Bigfoot." Many of those who support the "biological" view apparently believe the creature is one of cosmopolitan distribution—with reports from practically every state (my native southern Ohio is high on the list). This school of Bigfoot-naturalists also follows the reports of many other similar creatures from around the globe, such as the Almas of Asia, the Yowie of Australia, and, of course, the famous Yeti.

Paranormal Bigfoot enthusiasts are also a bit divided. There are those who believe that Bigfoot is a super-shaman who has been known all along to Native Americans. This "medicine man" is capable of "shape-shifting" into various forms, one of which we call Bigfoot. There are also the folks who believe Bigfoot to be an "extradimensional" (or is that interdimensional?) creature. This perspective explains why Bigfoot apparently dematerializes in some sightings, or why its tracks suddenly stop in the middle of a field. Still another angle on the phenomenon from this side of the debate is the "Bigfoot as extraterrestrial" position (some Bigfoot sightings are supposedly accompanied by UFOs). But even this sub-position still suffers from internal dissonance: some believe that Bigfoot *is* an extraterrestrial, while others think that it may merely be manipulated by the extraterrestrials, or that it may even be an android or a robot that serves as a companion.

Of course, once extraterrestrials have been invoked, conspiracy theories cannot be far behind. So it is in the humble cryptozoological field of Bigfoot study. List members suggested several times that Bigfoot information is being suppressed by the federal government. Some conversation centered around the usefulness of the Freedom of Information Act for obtaining data. Other discussion, including sighting reports, mentioned the infamous and ubiquitous "black helicopters" and government "black operations" of contemporary paranormal lore. The most fascinating suggestion was that one list member had obtained information from a government informant about impending volcanic activity in the West that could flush Bigfoot from hiding, thereby staging an opportunity for Bigfoot investigators *en masse* to observe the entity in an open situation that could never be concealed by the government. Still another enthusiast apparently wrote to officials in Washington, D.C., asking for protection for himself and a Sasquatch family he was concealing (he was afraid they might be harmed by representatives of timber companies anxious to conceal yet another endangered species needing habitat protection).

The spookiest discussions centered around whether or not it would be morally acceptable to kill a Bigfoot in order to present incontrovertible proof of its existence to the scientific community. Aside from the fascinating ethical discourse (the usual utilitarian versus Kantian stuff one would expect here),

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the frightening part was when group members began discussing appropriate rifle calibers (most opted for at least a .300 or .338 magnum) and the field trips of several individuals that were designed to "hunt" the creature down. Hunting a *bipedal creature in the forest with guns—I don't know about that.* I myself hunt, but that gives me pause when planning my next backpacking trip.

Several times list members spoke of Bigfoot as a "wisdom keeper" who could "teach us (humans) much" if we could just listen.

Speaking of ethics, a number of list members assailed any and all scientists and skeptics who suggested that Bigfoot phenomena might have pedestrian explanations. These people asserted that research positions and educational credentials (such as an advanced degree) were meaningless symbols of a privileged class whose members probably were "given" these "gifts." Yet, some of these same people apparently touted fake *credentials of their own, and others openly defended the practice.* I anticipate soon seeing "Certified Bigfoot Investigator" becoming available as a new professional certification (for a nominal fee, of course).

Toward the end of 1997, I grew bored with the nonsense on the list and planned my exit. But before I left, I decided to get bolder and come out of the shadows of the group. I began to post to the list frequently. At first, I politely noted inconsistencies in stories or factual errors in reports. Later, I began to suggest that perhaps there were alternate explanations for the phenomena: misidentification of known animals, wild imaginations, hoaxing, and the like. Finally, after long listening to questions between group members such as "Why won't the scientific community take this subject seriously?" I leveled a series of challenges to their "field." Along with the expected ones about the phenomenon itself (Where's the hard evidence? *How could a reproducing population of large primates* go officially uncatalogued in relatively populated areas?) I pointed out that science isn't much interested in exploring untestable existential hypotheses. Scientists aren't obligated to "check out" (as some list members suggested) any and all claims of laypersons, no matter how preposterous; furthermore, disinterest in claims of a phenomenon is not tantamount to a "conspiracy" or a coverup.

It was at this point that the religious nature of many Bigfoot enthusiasts on the list emerged. I was now a heretic, and many of the list members became dogmatic and defensive. Seldom did any of the members address these challenging posts in any substantive way, but the chorus of the "defenders of the faith" rang loudly, and the devout recited their Sasquatch mantras back and forth to bolster their beliefs against this heterodoxical assault. Some were angry; some disappointed; *a few supportive, but the group went on, seemingly* unfazed and immune from outside challenges. After these postings, I also began to receive electronic mail from individuals I had never heard of and was subscribed to other listservers against my wishes. It was time to wrap up the expedition. By late December 1997 I was completely tired of the spectacle and unsubscribed from the list. I was surprised to hear that soon thereafter its supervisor suspended the listserver *and took some time off (I've heard it's now back online).*

What did I learn from my two years of hunting Bigfoot in cyberspace? Not much about Sasquatch, but plenty about those who have extreme beliefs in the paranormal. First, never underestimate how strange and complex the beliefs of those in the paranormal community are. I thought the idea of an undiscovered giant bipedal primate in North America was bizarre, but it paled next to the theories of Sasquatches as shape-shifting shamans and trained pets of extraterrestrials that some believers embraced.

Second, do not underestimate the extent to which theories can be permutated by believers to avoid testing. I think that the notion of Bigfoot as an extradimensional creature is an example of a convenient immunization of a theory to make it *more resistant to possible refutation (i.e., a Bigfoot has not* been found because "any attempt to catch it or shoot it will fail because it will simply escape into another dimension"). This sort of flexibility in thinking seems to be a common and necessary form of defense against skepticism.

Third, one cannot ignore the social and perhaps even spiritual needs that are fulfilled by belief in such phenomena. In particular, Bigfoot represents a form of "unspoiled being" to many of the list members I observed. Many members see this creature simultaneously as a symbol of wilderness and a connection with primitive knowledge. Several times list members spoke of Bigfoot as a "wisdom keeper" who could "teach us (humans) much" if we could just listen; thus imbuing Sasquatch with the qualities of a primeval savior.

Lastly, while many of the participants were so-called true-believers, whose opinions were formed hard and fast, there *were a number of apparently intelligent and less-credulous* persons on the list who were open to skepticism while remaining intrigued by the subject at hand. I think that these people deserve more respect than they sometimes receive from the skeptical community.

Are the Bigfoot promoters right? Does Sasquatch exist? No, I don't think so, and I've seen no credible evidence to support that hypothesis. I am open-minded, but pretty skeptical; I think that is a desirable and potentially consistent position. The hunt is off for me. I didn't find anything, but I didn't really expect to either. Still, it was a successful hunt. All nimrods know that the best of the hunt is in the hunting; the consummation is not in securing the object of your quest. Perhaps that's the secret behind the motivations of these Bigfoot fans—it's the ultimate hunt, they stalk the perfectly elusive quarry. No one ever has to wrap things up, no one ever has to call the dogs home. *But for me, the knowable world is sufficiently and* completely fascinating—and deserving of our study. Just remember to wear bright orange when hiking through it in Sasquatch-hunter country. □

Introduction

BY JAN HAROLD BRUNVAND
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Urban legends—as I wrote in American Folklore: An Encyclopedia *(Garland, 1996)—are apocryphal contemporary stories, told as true but incorporating traditional motifs, and usually attributed to a friend of a friend. The term, adopted by folklorists in the 1970s, has become familiar to members of the public and journalists (who sometimes use the less accurate term "urban myth") to refer to many of the odd, unverified, and "true" rumors and stories that circulate both orally and in the media. Despite this public awareness and the best efforts of scholars and investigative reporters to debunk them, such stories—both new and old—continue to be spread avidly, especially on the Internet. Thus, my own version of the last sentence of Scott Stine's article that follows (which I use as a motto on my e-mail signature block), is "The truth never stands in the way of a good story."*

Many urban legends, as the writers of the following two essays recognize, are benign, silly, barely credible, and easily disproved; they are told more for entertainment than for any moralistic purpose, although there is often an implicit message or warning in them as well. But other modern legends are potentially dangerous, leading people to make decisions unwarranted by any facts. (I think particularly of legends about crime, many of which take the form of "bogus warnings.") The two essays published here confront urban legends of this kind, showing how the baseless stories about organ-thefts and snuff films grew, spread, and to some degree affected public policy. It's notable that neither of these writers is a professional folklorist; apparently, the lessons of folklore research in this fascinating area of modern tradition are spreading, just like the legends themselves.

The Snuff Film
The Making of an Urban Legend

One of the most enduring, and little-recognized, urban legends about cinema is the "snuff film," in which actresses are supposedly actually killed onscreen. Over the course of nearly a quarter century, the snuff film has transformed from grade-Z slasher film to hoax to anti-pornographers' straw man to urban legend, and shows no sign of slowing down.

SCOTT AARON STINE

Urban legends are everywhere. For many of us, our lives are made more interesting by the mere presence of such guilty pleasures. For others, the legends are very real, and hold as much—if not more—power than fears that can be justified. They are a means for us to indulge even our most morbid inclinations by the simple act of relaying well-worn accounts that fall somewhere between

gossip and campfire tales. It can be rightfully said that they are the folklore of the industrial generation.

Many people unfamiliar with the concept of urban legends (or suburban myths, depending on the locale) have been responsible for disseminating and perpetuating such hardy tales. The baby alligator that is flushed down the toilet, only to survive and breed in the sewers beneath city streets. The nameless old woman who decides to dry off her beloved poodle by throwing it in the microwave for a few short minutes . . . with predictably nasty results. The nameless young woman who visits the tanning salon one too many times, and—after being unable to get rid of a noxious odor clinging to her person—discovers that her insides are rotting as a result of being cooked. These are but three of innumerable urban legends perpetuated by everyone from children too young to understand their significance to businesspeople gossiping around the water cooler during their breaks.

Credit: Scott Stine

And, like living languages, urban legends change, both as a result of misinterpretation and through evolution, adapting to fit the environment of those cultivating them. Yet, despite their stubborn existence, no one can ever offer any proof other than it having happened to "a friend of a friend." So widespread are these snippets of delusion, so ingrained in our culture, they are now looked upon as something more integral to our lives than mere idle gossip. Recognizing the importance of these tales, folklorist Jan Harold Brunvand began collecting them in their various forms, and authored five books on the subject between 1981 and 1993. He also wrote a nationally syndicated column that recounted such tales. Brunvand found that he had his hands full, though, as he probably spent just as much time writing about urban legends as he did debunking the claims of those "friends of a friend" stories.

Cinema and Urban Legends

Although an occasional nuisance to those aware of their erroneous nature, urban legends rarely have a dramatic effect on society. But what if such a tale grew to an unprecedented level of acceptance that it actually had a substantial effect on the public? What if it became responsible for the dissemination of unsubstantiated claims that created a nationwide panic? What if such a tale was responsible for single-handedly creating a myth that would become a cinematic bogeyman for generations? Such, it seems, is the history of the snuff film.

Urban legends cover all facets of life, including cinema. And since two major themes underlying urban legends are sex and death, it seems only natural that the genre of the horror film is rife with lore. Being a convenient scapegoat for numerous societal woes since their conception, and being vilified on the same grounds as rock music and comic books, horror films are a perfect breeding ground for such urban legends. Stories abound, ranging from the innocuous (rumors still persist that *King Kong Vs. Godzilla* [1963] was released with two different endings, with Kong winning in the stateside release, whereas Godzilla triumphs in the Japanese version), to the downright macabre. (Many horror fans still think that such films as *Le Jorobado de la Morgue* [1972], *Buio Omega* [1980], and *Der Todesking* [1990] utilize real corpses to supplement the staged effects, despite documentation to the contrary. Due to the inaccessibility of many foreign films—especially low budget productions such as these—it is easy to see how such rumors can persist.) Some of these legends remain fairly obscure, relegated to being spread word of mouth by naive, uninformed fans. Others persist outside the fan following, infiltrating mainstream America.

Of the latter variety, one of the more popular myths involves the film *The Texas Chain Saw [sic] Massacre* (1974). There is a lingering misconception that this low-budget production was indeed based on a real story as it so coyly claims in an opening statement. In truth, it is loosely—if not tenuously—based the exploits of one Edward Gein, a Wisconsin farmer who had a filthy habit of raiding graveyards and making lampshades out of their clientele. Evidence that he practiced cannibalism and necrophilia on occasion cannot be overlooked either, although a chainsaw was *not* involved. As for similarities between these crimes and Tobe Hooper's unrelenting horror film, they are far and few between. (Alfred Hitchcock's *Psycho* [1960] actually bears a much greater resemblance to the case, despite the fact that author Robert Bloch claims he knew nothing of Gein's heinous crimes before writing the novel that inspired the film.)

Despite the inevitable frustration with having to reiterate the facts to those who adhere to these misconceptions, one can find humor in the claims inspired by *The Texas Chain Saw Massacre*. It is essentially harmless and remains an excellent example of how gullible people can be, how they adapt their

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reality to suit erroneous information offered to them as fact. It is also a testament to how our culture embellishes reality.

The myth of the snuff film, on the other hand, is a prime example of a cinematic urban legend. (The term "snuff" in reference to a specific genre of filmmaking where the actors are supposedly killed for the benefit of the viewer was coined by Ed Sanders in his book *The Family—The Story of Charles Manson's Dune Buggy Attack Battalion* [Panther Books, 1976]. The term was used to describe unsubstantiated claims that Manson and his followers may have been involved in perpetrating such crimes.) Twenty-four years later, many people who have heard of—but have never seen—the movie *Snuff* insists that it *does* contain actual footage of human death and mutilation. Even those individuals who do not recall the controversy have been affected by it, as belief in "snuff" films persist to this day. Many people attest to the existence of snuff films even though no one has ever actually *seen* one; authorities, it seems, also have nothing more concrete than vague rumors about the alleged production and distribution of snuff films as well. It is not at all surprising that most of the rumors concerning the existence of snuff films did not surface until *after* this film made headlines.

It is safe to say that anybody who has seen *Snuff* (which is obscure, but far from unavailable) knows how ludicrous these claims are, at least with respect to this specific production. Not only is the gore obviously fake, but the execution of the special effects is painfully inept. *Snuff* is nothing more than a grand marketing scheme that made a shameless little splatter film into one of the most profitable—and notorious—films ever conceived. The clever ad campaign was obviously tongue-in-cheek, but somehow millions of theater-goers were snagged by the notion "But what if it is real?" and it seems that their morbid curiosity got the best of them. Were the producers trying to exploit America's obsession with the macabre? Or did they simply view it as a clever dare to attract a few extra ticket sales? As it turns out, the latter seems closer to the truth. Whatever the motives, it worked, to the absolute joy of the promoters—and to the chagrin of those who would inevitably be confronted with the chore of debunking the hoax in the years to come.

The Origin of the Snuff Film

The film's origin dates back several years before its auspicious release in 1975. In 1971, filmmakers Michael and Roberta Findlay helmed a production in Argentina called *Slaughter*, a modest little film that was made for a little over thirty thousand dollars. Although various sources have cited it as an unfinished production, it did have a brief theatrical run. (*Slaughter* played no more than three theaters prior to October 1975; obviously, promotion was not their strong suit.) How this came about is uncertain; with the exception of an abrupt end—quite possibly snipped to accommodate the splashier finale tacked on years later—it is obviously a complete production.

Slaughter did its best to exploit the still-steaming remains of the Manson Family's involvement with the Tate/La Bianca murders, although much artistic license is taken. The film is generally more accessible than the Findlays' other films—*The Touch of Her Flesh* (1967), *A Thousand Pleasures* (1968), et al.—but this was not much of a stretch. Fans of their films—especially *A Thousand Pleasures*—will not only recognize some of the familiar faces (and voices, some of the dialogue being dubbed by those involved in the aforementioned film, the Findlays among them), but the overwhelmingly awkward dialogue as well. Unlike these other lowbrow productions, though, *Slaughter* was not destined to languish in the pits of obscurity. Far from it.

In 1972, Allan Shackleton, a research engineer-turned-film producer had bought the world distribution rights for *Slaughter* through his Monarch Releasing Corporation, a distribution house that specialized in sexploitation fare. (Sexploitation films are exploitation films which are overwhelmingly sexual in nature, but do not fall under the label of hardcore pornography.) He was still "scratching to recoup a shaky investment in a rotten film" (Lynch 1976) three years later when it caught the attention of someone who mistook the proceedings in his film as something more sinister than it was. Instead of setting the record straight, Mr. Shackleton played up on the false assumptions. Gambling on the three I's (implication, inference, and innuendo), he implied but did not explicitly assert that the atrocities in the film were authentic.

On December 1, 1975, Allan Shackleton sent out the first of several press releases aimed to pique the public's interest. Unfortunately for him, Michael Findlay caught sight of it and immediately realized that it was *his* film *Slaughter* (now retitled under the more succinct, monosyllabic moniker *Snuff*) that was behind the escalating furor. Findlay approached the distributor about contract renegotiations (as he was obviously not getting a big enough piece of the pie), but was unsuccessful in his pleas for more money. He did, however, almost succeed in exposing the entire scam during a crushing interview; Shackleton immediately paid him off, and he did not hear from Michael again.

Shackleton took the next step of distributing fake newspaper clippings that detailed the efforts of a fictional "Vincent Sheehan" and the retired attorney's crusade against the film through a newly formed organization called Citizens for Decency. Unbeknownst to him, though, there really *was* a group called Citizens for Decency, but this did little to deter the real organization from rallying behind Shackleton's fictional do-gooder. If anyone from the group had checked Sheehan's credentials, they evidently did not make it publicly known.

Amidst the national hysteria, critics everywhere were writing articles condemning the unreleased film, endorsing its authenticity sight unseen and giving it whatever credibility it had previously lacked. At this point, no one had actually seen the movie save for a few disgruntled theater-goers who had

happened to catch it during its short-term run as *Slaughter.* Even more ironic, the notorious finale that would give the film the weight it needed to guarantee it a place in the history books had not even been filmed yet.

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The scene that punctuates the Findlays' all-but-forgotten film was shot for $10,000 in a Manhattan loft by Simon Nocturn of August films during the course of a single day. This new footage featured a film crew (supposedly the selfsame individuals responsible for *Slaughter*) who wrap up their production by mutilating, dismembering, and eventually eviscerating the leading lady (who bears no resemblance to the previous actress). At the pinnacle of her bloody demise, the cameraman conveniently runs out of film, although the audio track continues to record their panicked voices even after everything has faded to black.

It then unofficially became cinematic history.

Hype, Hoax, and Hysteria

Snuff opened January 16, 1976, and was met by as many curiosity seekers as ardent protesters. Theaters were besieged by staunch feminists, egged by angry picketers, and unnerved by bomb threats. Instead of deterring would-be ticket buyers, though, the furor only fanned the flames of public interest. In the first week of its New York run, *Snuff* grossed $66,000 and outsold such hits as *One Flew Over the Cuckoo's Nest* for three weeks straight (Smith 1982).

The controversy finally caught the attention of the legal system, forcing the film to carry a disclaimer that clearly stated that no one was harmed during the production of said film. Reluctantly, Shackleton went along with it but eventually recounted his admittance, reverting to his statement that the public should be left to decide *Snuff's* authenticity for themselves. Years later, Shackleton finally fessed up (sans coercion), but by that time no one wanted to listen—to him or anyone else it seemed. Not only had the notoriety of the film snowballed to unprecedented proportions, but it had become accepted "fact" that snuff films were a real national scourge and no amount of debunking would change the public's opinion.

The incidental showing of *Slaughter* that sparked Shackleton's decision to play up the sordid implications of the snuff myth led to Detective Joseph Horman's claims that the New York Police Department had "reliable sources attesting to the circulation of snuff films," which he erroneously referred to as "slasher" films. Apparently, he said, interested individuals were paying $200 apiece—some sources cite a mere $150—for private screenings of an eight-reel, 8mm production which was rumored to have been filmed in Argentina. This unverified account could easily be traced back to *Slaughter,* although it had been greatly embellished by the time it had reached the authorities. This single rumor became the only evidence on which the entire *Snuff* hoax—and the snuff movie scare—was rooted.

The Los Angeles Police Department did an investigation into the phenomenon and admitted that they could not find even the *slightest* evidence that snuff films actually existed. They later denied this statement, saying that no investigation was ever initiated by them, possibly in an attempt to defend themselves against the harassment of a public who believed otherwise. Reporters who actually followed up on the rumors (as opposed to simply accepting the authenticity of the films on hearsay) came up empty handed as well. Still, the majority of the population was convinced that snuff films were a multi-million dollar black market racket. It was only after *Snuff* had run its course and the lack of evidence of snuff films became apparent that the hysteria died down and some people began doubting their convictions. Unfortunately, the notion had become so ingrained in our culture that, for future generations and those too young to understand its significance, snuff films would transgress the line from hoax to urban legend.

Twenty-four years later, the myth remains.

To this day, anti-pornography campaigners use *Snuff* and snuff films in general as artillery to defend their moralistic crusades. Many hardline feminists use snuff films as an example of patriarchal suppression. Such books as *The Age of Sex Crime* by Jane Caputi, *Outrageous Acts and Everyday Rebellions* by Gloria Steinem, and *Take Back the Night—Women on Pornography* by Laura Lederer make the assumption that snuff films are a given in this day and age; some even go so far as to suppose that snuff films are the logical conclusion for those individuals jaded by more traditional forms of pornography. Even Linda Lovelace, star of the groundbreaking adult film *Deep Throat* (1972), testified to the U.S. Attorney General's Commission on Organized Crime that "women acting in porn films were being murdered on camera or after filming when they were deemed of no further use" (Kerekes 1995). (Many, though, don't take her claims very seriously, as she previously spent many years trying to vilify the adult film industry.) Unfortunately, the decision on the part of some hardline feminists to rely on hearsay only exposes their ignorance of the facts or purposeful dissemination of long-debunked propaganda. Those individuals willing to cross the line and try to dispel the myth find themselves avoiding the slings and arrows of their detractors.

The snuff film controversy is suspiciously similar to the current trend to blame many of our societal woes on satanic cults and their sexual and psychological abuse of children; one

cannot discount the possibility that there may be isolated incidents of both real snuff films and satanic ritual abuse, but—so far—there is no substantial proof as to the existence of either.

Despite the sometimes chastising tone of this article toward the man responsible for *Snuff's* conception, Shackleton should be commended for his ingenuity and his success at riling up a sometimes lax populace. (Especially in the 1970s, a decade known for its lack of political correctness.) Had he actually claimed the authenticity of the film like so many government authorities, angry citizens-turned-activists, and (especially) the media, he would have been no better. When it gets right down to it, his worst crime is being opportunistic.

In a perfect world, no one would have taken his inferences with anything more than a grain of salt, and if they had, the illusion would have been quickly dispelled on an individual and community level. Unfortunately, though, *Snuff's* shameless promotion created a wave of hysteria that latched onto a culture's deep-rooted ignorance and flourished in a media-driven society quick to publicize the sordid and sensational. Furthermore, our society's cathartic interest in the macabre—in our fascination with all things concerning death—only strengthened the hysteria's roots.

Even today, there are rumors of "snuff" sightings, sometimes instigated by the filmmakers themselves. The most recent example involves a Japanese series of gory shot-on-video productions released under the collective title of *Za Ginipiggu (Guinea Pig)*, several of the installments having been directed by the infamous *manga* (Japanese comic book) artist/writer Hideshi Hino. Hino is known in the U.S. for such comic book graphic novels as *Panorama of Hell* and *Hell Baby*. (The first film in the series was even accompanied by the disclaimer "The producers received this video. There was no accompanying information. We are researching name, age, and other information about the girl and her three killers." Sound familiar?) Apparently, someone was showing a copy of the third installment, *Chiniku No Hana* (1990), at a Hollywood party circa 1991 where it caught the eye of actor Charlie Sheen. Convinced he had seen an actual snuff film, he immediately contacted the MPAA (Motion Picture Association of America) and—before they could substantiate the claims—he "got involved in a subsequent movement to stop any kind of import distribution for the films" (Weisser and Weisser 1997). The film was traced back to Chas Balun, a film reviewer who also moonlighted as a video bootlegger; of course, the atrocities in the film were proven to be fake. The incident made headlines, though, and was even spotlighted on ABC's newsmagazine *20/20*. Instead of the film being confined to the pits of obscurity as—we can assume—Mr. Sheen had hoped, the furor only fueled the fire of interest in this no-budget splatter film, giving it a cult status it did not deserve. This same film sparked similar controversy in Great Britain in 1992, the owner of the confiscated "video nasty" fined for nothing more than mild obscenity charges when it proved to be the low-rent hoax that it was.

Yet it is not only the claims of deceived individuals that help to perpetuate the myth; every time that snuff films are even mentioned in modern fiction and cinema, they are giving credence to the rumors, playing on the reader's or viewer's assumptions that they are real to begin with. Not only have snuff films become a common staple in many sordid crime novels written in the last twenty years (even by such respected mystery writers as Rex Miller and Andrew Vachss), they have become popular subjects for innumerable exploitation and horror films. *The Last House on Dead End Street* (1977), *Effects* (1979), *Holocausto Canibal* (1979), *Video Violence . . . When Renting Is Not Enough* (1986), *The Art of Dying* (1991), *Midnight 2—Death, Sex and Videotape* (1993), and even the exemplary productions *C'Est Arrivé Près de Chez Vous* (1992), *Mute Witness* (1994), and *8mm* (1999) are just a few of the countless titles that milk the urban legend for all it's worth. Even if the existence of actual snuff films should be validated at a later date, it is safe to say that there are more films *about* snuff films than there are actual snuff films in existence.

Of course, this issue begs the question: Should novelists and screenwriters avoid the subject altogether because it helps to perpetuate the myth? No, and why should they? Writers deal with fiction, and the suspension of disbelief is an integral part of any good novel or film. Putting any sort of disclaimer on each and every piece of entertainment that chooses to exploit this and other myths is a ludicrous notion; people should not have to be told that what they are reading or viewing has no basis in fact, as the label of "fiction" already establishes this.

The media, on the other hand, have a responsibility to the public, not so much with the dissemination of information, but with the dissemination of facts. Unfortunately, fanciful stories and hearsay are usually more interesting than cold reality and facts, as urban legends have shown beyond any shadow of a doubt.

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Bitter Harvest

The Organ-Snatching Urban Legends

Many urban legends are harmless, such as stories of microwaved poodles and giant alligators lurking in sewers. Others, however, can have serious consequences. The organ-snatching urban legend and its variants have been taken seriously in some places and caused real harm.

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The idea of having parts of one's body removed is frightening enough: no one looks forward to an amputation or surgery. Even those people who must undergo surgery do not necessarily want the affected organ or part removed, just the malady itself. The idea of having a part of the body *forcibly* taken is much more horrific. This is the basis for the organ-snatching urban legend, and references to it are common. For example, the 1978 film *Coma*, starring Michael Douglas, told a story of unethical doctors taking organs from the comatose. An episode of the television show *Law and Order* also featured the theft of a kidney. Airing April 2, 1991, it was titled "Sonata for Solo Organ." According to Barbara Mikkelson of the Urban Legends

Reference Page, the show's writer said he had heard it from a friend, and the friend assured him that the story was a true account that had come from a newspaper (Mikkelson 1998a).[1] More recently, a 1992 film titled *The Harvest* involved a screenwriter in Central America who uncovers a black market in kidneys. And a Brazilian film released in late 1998 titled *Central Station* featured a young boy threatened by organ snatchers. It won a Golden Bear Award for Best Film at the 1998 Berlin Film Festival and was nominated for this year's Oscar as best foreign language film. There is even a rock band named the Kidney Thieves.

Urban legends are becoming more common in today's society, and the World Wide Web helps spread rumors and legends at an unprecedented rate. With the touch of a few keys, lies, rumor, conjecture, truth, fabrication, and any mix thereof can be sent to millions of people through the Internet (see, for example, Wallich 1998). The ability to correctly identify urban legends extends beyond the realm of folklorists; a modern sophistication has developed in which stories of old ladies microwaving their poodles are frequently identified as the tales that they are. But it must be remembered that, at one time, such well-known urban legends were taken seriously and believed (and many are to this day, by some people). It is with this perspective that the organ-snatching legend must be examined.[2] Many people really do believe that organ-snatching does occur, just as many believe in organized satanic conspiracies and cults. The legend has several facets and myriad roots.

Variants of the Legend

The Adult Traveler

There are several variations of the basic organ-theft urban legend. The most common one goes something like this:

> A business traveler in New Orleans takes a break from a long day and has a drink in a hotel bar. A prostitute approaches him, and they flirt. They end up in his hotel room, where he soon blacks out. He wakes up the next morning in the room's bathtub to find a note taped to the wall instructing him to call 911 from a nearby telephone. He does, and the 911 operator instructs him to feel for a tube protruding from his lower back. He finds one, and begins to panic. He is told to lie still, that one of his kidneys has been removed, and an ambulance is on the way. He is later told of a vicious gang of kidney thieves who sold his kidney to the highest bidder in a clandestine organ market.

In some cases the tub is filled with ice; in others the man discovers the sewn-up incision on his own, without a note or 911 telephone call. The city may be Las Vegas or New York, but is almost always in the United States (Mikkelson 1998a).

The Kidnapped Child

A second type of organ-snatching urban legend involves harvesting organs from children. This legend is made all the more horrifying because the victim is not simply a randy American businessman in a bar, but a defenseless third-world child. A typical claim is that children in India, the Phillipines, and Latin America (most typically Guatemala, Honduras, and Brazil) are being kidnapped and sold to rich Americans or Europeans for their organs (Brunvand 1993). The most commonly claimed thefts are those of kidneys and corneas. Several important distinctions can be drawn between the child and adult organ-theft claims (Mikkelson 1998b). For example,

It must be remembered that, at one time, well-known urban legends such as microwaved poodles were taken seriously.

- The traveler-wakes-up account is always told as a *story*, a narrative of how the unfortunate man got lured into the hotel and woke up with a kidney missing. The child-snatching scenario, however, is presented as a frightening *fact*. In some accounts, a police-led warehouse raid uncovers huddled, frightened children held captive, but that is about as detailed as the story gets.

- The traveler's account nearly always takes place in a U.S. city, whereas the children are invariably taken from a third world country. This is a very important distinction, as the child-kidnapping legend feeds latent anti-American sentiment throughout Latin America.

- The traveler is an adult man who can be said to have taken his chances by accompanying the prostitute. In this view the adult kidney-theft urban legend is also a morality tale of sorts about the dangers of casual sex. The victim in the child snatching is of course an innocent, defenseless child. How the kidnappers actually get the child is not part of the story because it is assumed that he or she could be easily snatched off the street.

- In the traveler's account, care is taken to preserve the man's life. In most cases, only one kidney is taken, and the incision has been professionally sewn up and pre-

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pared. The snatched child, on the other hand, is almost always presumed killed.

In the traveler's tale, the main concern is for the man who was so horribly assaulted. But the child-snatching factoid focuses more on the kidney itself and what happened to it. The fate of the child is almost incidental to the story.

Although the identities of children snatched for their kidneys are usually unknown, several children have come forth with stories of having had their corneas removed. Frequently these claimants are tracked down by newspaper or television reporters looking for a story. One famous case was that of Pedro Reggi, a boy who claimed that his corneas had been forcibly removed during his stay at the Montes de Oca mental institution in Argentina. The claim surfaced in a British/Canadian television program titled "The Body Parts Business," and was later broadcast on a French television program titled "Organ Snatchers." On November 25, 1993, four days after the original claim was broadcast, Reggi and his half-brother, Mario Barretto, went on the Argentine television program *Hora Clave* to retract the allegation. Barretto revealed that an opthamologist examined Reggi earlier that day and found that his corneas were in fact intact, but they had been damaged by disease. Subsequent investigation uncovered Reggi's medical records, which confirmed that the sight loss was due to natural causes (Leventhal 1994).

A second claim that aired on the "Body Parts Business" was that of eight-year-old Honduran Charlie Alvarado. The boy claimed that he was kidnapped by foreigners who wanted to sell his organs, but he managed to escape after four days. The documentary producers apparently felt that they had sufficient information and aired no critical examination of the boy's claims. That fell to Spiegel television in Germany, which also examined the organ-theft claims, including that of Charlie Alvarado. As Todd Leventhal, formerly of the United States Information Agency (USIA), reported, "According to a June 20, 1993, Spiegel television broadcast on this subject, an investigation of Alvarado's claims by the Honduran courts 'revealed that Charlie's story was a fabrication.' Alvarado could not remember the day on which he was allegedly kidnapped, he had no bruises from the ropes with which he claimed he had been bound tightly for days, and the two foreign workers he accused of kidnapping him were released for lack of evidence" (Leventhal 1994). Despite such serious oversights, "Organ Snatchers" won France's prestigious Albert Londres journalism prize in 1995 (Barry 1995).

The "Organ Snatchers" documentary also featured a Colombian woman, Mrs. Luz Dary Vargas, who claimed that her young son, Weinis Jeison, had also been the victim of this horrible crime. She said that when Jeison became ill she took him to a local hospital, where his corneas were forcibly removed—a terrifying story indeed. But when the Colombian Office of Human Rights investigated the theft, the story began

High Andes Indians in Peru. These Quechua are among the Indian groups who share a belief in the *lik'ichiri*, an entity that stalks the high plains and supposedly steals fat from its victims. (Photo by Jeff Radford)

to unravel. In a report issued February 4, 1994, the office found that in fact Jeison had gone blind due to natural causes. In early February 1993, the boy was hospitalized with numerous health problems, including "severe bilateral eye infection," which led to complete blindness well before the allegations of cornea theft were made. The report also stated:

> The mother of the minor Weinis Jeison, Mrs. Luz Dary Vargas, received the sum of 40,000 [Colombian] pesos (about $60 U.S. dollars) from the French journalist . . . for the version of the story she gave regarding the child. . . . We note that the aforementioned journalist did not question the verbal testimony given by the humble peasant mother about the minor in question at any of the health institutions where the child was attended to . . . nor were health officials . . . or the medical records consulted either, as would have been hoped. (Leventhal 1994)

A few other claimants have surfaced, but the same pattern of allegation, investigation, and subsequent repudiation is repeated. Frequently the original, alarming claim will receive international attention, but the more sober follow-up, refuting the claims, will only make local news. This leads to an availability bias problem for researchers, who are likely to overlook smaller, local stories.

Lik'ichiri: Fat Stealers of the Andes

Stories of child organ-snatching are common in Central and South America, but they are not the only tales of bodily theft. The urban legend of the *lik'ichiri*, said to haunt the *altiplano* (highlands) of the Andes mountains, is another. *Lik'ichiri* means "fat stealer" in the language of the Aymara, one of the prominent indigenous groups of the Andes. It is a well-known figure among the Quechua, Aymara, and other native Andean

cultures. While in La Paz, Bolivia, in 1996, I interviewed Eulogio Chavez, an ethnolinguist at the Ethnology and Folklore museum about the *lik'ichiri*. According to Chavez, the *lik'ichiri* attacks people as they sleep on the *altiplano*, cutting long, thin slits in the victims' sides and removing their fat. The extraction is painless, and the wound promptly heals without the victim being any the wiser (Radford 1996).

While at first a *lik'ichiri* attack might appear to be a cheap and efficient method of weight loss, according to the legend the eventual results are much graver: unless treatment is given promptly, the victim will die. Treatments include the clandestine administration of a potion called *achacachi*. Although the extraction of fat may seem trivial, it is important to realize that in the frigid Andean highlands fat helps keep people insulated and alive. Anyone left in the cold of the high rugged mountains without protection, including natural body fat, is indeed in real danger.

Although Chavez (1996) believes that the *lik'ichiri* legend is very old (originating before the Spanish Conquest in the 1630s), the urban legend has clearly been updated. Most reported attacks occur in the mountains and high plains, but people are also said to be attacked in the cities as well. In La Paz, Bolivia's capital and largest city, hapless bus riders are said to be attacked late at night. Supposedly one can avoid a *lik'ichiri* attack by traveling only during the day, avoiding walking alone at night, and eating garlic, which is supposed to dilute the fat, making it less appealing or unusable to the *lik'ichiri*.

Although some sources claim that the *lik'ichiri* is a spirit or imaginary entity, most people I interviewed in La Paz, including Mr. Chavez, believe it is a real person, or group of people, who have special skills or abilities. Such powers include the ability to put their victims to sleep and make painless, surgical incisions. Note that many of the powers ascribed to the *lik'ichiri* are not necessarily assumed to be supernatural; many people today believe that hypnosis, for example, can make others fall asleep at will, follow commands, or dull the pain of a cut. The *lik'ichiri*, then, is less of a supernatural monster than a normal person with an odd vocation. "It's not necessarily evil," Chavez notes, "but a profession. It's an economic question."

Unlike tales of native children's organs being harvested for implantation into rich foreigners' children, the *lik'ichiri* supposedly sells the fat he collects to international corporations — mostly American companies— to be used for various purposes, including plastic surgery and the development of anesthetics. According to Chavez, unscrupulous company representatives supposedly buy the fat from the *lik'ichiri* knowing that it was taken from innocent victims in the high plains. Chavez compared the situation to the history of quinine: Just as the Whites (and their companies) took quinine from the Andes and developed it for profit, the same is being done to the Andean people's life-preserving fat.

Similar urban legends elsewhere in the region include the *pishtacos* and the *sacaojos* of Peru. In the case of the *sacaojos* ("eye-stealers"), rumor spread in the Peruvian capital city of Lima that bands of foreigners had taken to the streets to kidnap children, later throwing them back on the pavement with their eyes gouged out. The eyes were said to be sold overseas at a lucrative profit.

The original, alarming claim will receive international attention, but the more sober follow-up, refuting the claims, will only make local news.

On a cultural level, the children, and by extension, the very future, of the native peoples are threatened by the *lik'ichiri*. In the *lik'ichiri* urban legend, the bodies themselves of the native population are being taken from them. This fuels xenophobia, and indeed "[T]he figure of the pishtaco is first of all that of a foreigner. This tall white—who drinks milk and sleeps by day—goes out at night carrying under his long coat a long knife with which he cuts up Indians. He uses their fat to oil his machines and their blood to sell to blood banks" (Shakespeare 1989).

Although the *lik'ichiri* is usually thought of as a native, foreigners are occasionally accused of being *lik'ichiri* and attacked. One American woman I spoke with in La Paz who worked on the *altiplano* said she had been warned not to be seen out at dusk or night because she might be attacked by locals, whose attitude is better safe than sorry concerning a *lik'ichiri* in their midst.

Despite the similarity of many motifs to the vampire legend (such as attacks that occur at night, the use of garlic to deter the predator, the draining of a bodily substance, an ability to put others to sleep and turn invisible, etc.), Chavez sees no parallels between the two: "One is fiction," he said. "The other occurs right here."

The Organ Trade in China and India

It would be naive to believe that there is no organ *commerce* in the world at all. There are many verified cases of organ selling; indeed, in some countries selling one's organs is perfectly legal. In the United States, it is against the law, although some have suggested that legalizing it would save lives and be beneficial to all involved.

In India, for example, some adults voluntarily sell one of their kidneys. Although the sale of kidneys is seen by many in the United States as morally objectionable, it should be remembered that in India, as in many developing countries, sophisticated medical equipment is rare and in many cases the resources simply are not available to extract and preserve

organs of those killed in accidents for later transplant. Few Indians who suffer from kidney failure can afford dialysis treatments, so they can either die or purchase a kidney. In 1994, the Indian parliament passed a law making it illegal to buy or sell human organs for transplantation, but, "A loophole in the law allows people who are related to the recipient only by ties of affection to donate organs with committee approval" (Cohen 1998).

One case of organ selling that made headlines in 1989 was that of Ahmet Koc, a Turk who traveled to Britain to sell one of his kidneys. In December 1989, Koc claimed that three months before, he had been brought to Britain with the promise of a job. When he went in for a medical check, he was given an injection which he believed to be a blood test, but woke up the next day to find that a kidney had been removed. He was told not to be upset, because he would be well paid for his loss.

It was later revealed that Mr. Koc was in fact one of four Turks who voluntarily sold their kidneys that day in September of 1989. He was apparently unhappy with the amount paid him, and went to the press with his story. Although transplanting brokered kidneys was legal at the time in Britain, three London doctors who participated in the transplant were found guilty of professional misconduct. The law has since been changed, presumably in large part due to the furor over the Koc case. Again, as frequently occurs, the original, bizarre claims received enormous publicity while the truth about Koc came only much later and was barely reported or noticed. It is likely that the Koc case did much to spawn the urban legend of adult organ snatching.

Organs taken from recently executed Chinese prisoners is another example. Although the Chinese government claims that such organ harvesting is rarely done and then only with the consent of the prisoners, several respected human rights organizations insist otherwise. A 1994 Human Rights Watch/Asia report concluded that executed prisoners are the "principal source" for transplant organs in China (Leventhal 1994); a similar conclusion was reached by Amnesty International.

The Urban Legend Gains Credibility

The organ-snatching legend reached a peak of popularity in the mid-1990s, when several prominent organizations gave the rumors credibility. As noted earlier, several media outlets ran stories about child organ trafficking, including the Brazilian newspaper *Correio Braziliense* and a book published in Spain titled *Niños de Repuesto* ("Spare-Parts Children").

Further credibility was lent when the World Organization Against Torture issued a report by its director, Eric Sottas, in March of 1994. The paper, titled "Trade in Organs and Torture," listed six Latin American countries as confirmed traffickers in child organs. Sottas rehashed numerous accounts, many of them long since disproven, of organ trafficking. Sottas included, for example, the case of Pedro Reggi, the Argentine boy mentioned earlier who had lost his sight to disease, not cornea thieves (Sottas 1994).

The child organ-snatching legend even made it to the European Parliament. As Leventhal (1994) notes, the European Parliament adopted a "Resolution on Prohibiting Trade in Transplant Organs" on September 14, 1993. The resolution "calls for action to be taken to put a stop to the mutilation and murder of foetuses, children, and adults in certain developing countries for the purpose of providing transplant organs." The resolution was based on a report submitted by special rapporteur Leon Schwartzenberg, a former Minister of Health of France. Schwartzenberg's report was credulous about the organ-snatching legends, and the author based his conclusions on many dubious and recanted sources.

Rafael Matesanz, national coordinator for transplants of Spain's National Organization for Transplants, prepared a report in response to the resolution in which he stated: "The reference to [rumors of child organ trafficking] in an official document controlled by the European Parliament is improper from any standpoint, because it implies acknowledgement that such practices exist . . ." (quoted in Leventhal 1994).

Dubious Claims

With many and varied reports and rumors, as well as claimants to the organ-snatching urban legend, the myth seems reasonable to many people. After all, bizarre things happen all the time; why couldn't this be true?

The short answer is that, like all urban legends, yes, it could be true. It could be that at some point a little old lady really microwaved her poodle. And it is not technically impossible that giant alligators could roam the sewers of New York. But the evidence for organ snatching, just like the evidence for most urban legends, is simply not there. Because extraordinary claims require extraordinary evidence, the burden of proof is on those claiming that such a trade is in fact occurring. As yet, the evidence has fallen far short of the mark. To the contrary, many factors make organ-snatching claims suspect.

To begin with, it would be nearly impossible to conceal an entire organ-snatching ring. Kidney transplants are not simple procedures that can be done in someone's kitchen. Sophisticated medical equipment must be used, and donors and recipients must be carefully matched. Blood and tissue typing and histocompatibility tests must be done in advance. The operation would take between four and six hours and involve ten to twenty support staff, including three members of a surgical team, an anaesthesiologist, and two nurses. It would be a practical impossibility in America or the West to assemble a large team of highly trained medical personnel willing to engage in such illegal and unethical behavior. Highly paid medical staff here and abroad are unlikely to risk performing such operations, thus jeopardizing both their careers and reputations.

Dangers of Legends

The detrimental effects of the organ-snatching urban legend are manifold. Fear that organs are being forcibly taken from unsuspecting people decreases organ donations. For example, in the Cordobá region of Argentina, organ donations dropped 90 percent after Pedro Reggi's claims of cornea snatching circulated. And, according to Leventhal (1994), "After false charges of cornea theft in Colombia were publicized in a French television program in November 1993, cornea donations in Colombia plummeted, decreasing by 90 percent, according to the Pan-American Association of Eye Banks. Prior to the false charges, cornea donations in Colombia averaged 94 per month, but dropped to eight to ten per month after the program." This sort of public reaction costs people's lives, particularly in the case of kidneys. Every kidney, cornea, or other organ not donated is one less that could help someone to see or live another year.

In many poor areas, such as in the slums of Brazil, residents may avoid treatment in public hospitals out of fear that their organs may be taken (Scheper-Hughes 1998). The results can be tragic, since the poor are frequently those most in need of medical services.

The United Network for Organ Sharing issued a position statement on February 21, 1997, titled, "Debunking the Kidney Heist Hoax," which reads in part, "There is absolutely no evidence of such activity ever occurring in the U.S. . . . but it is possible that some believe it and decide against organ donation out of needless fear."

On December 29, 1998, Howard Nathan, executive director of the Delaware Valley Transplant Program, issued a plea for "Internet users to make New Year's resolutions not to forward false e-mail messages about a supposed organ snatching scheme." In a press release he stated, "The Internet story continues to be circulated and has a negative and harmful impact on the public's perception of the medical community and the organ donor program. . . .We shouldn't have to compete with false and outrageous organ donation stories on the Internet or anywhere else."

Inter-country adoptions suffer as well. Thousands of children who would otherwise be adopted by loving American or European families remain in orphanages throughout South America. Local adoption agencies are nervous about incurring their communities' wrath and suspicions that they are in collusion with traffickers of babies and baby organs.

While a decrease in organ donations may kill people indirectly, even worse can happen when unsubstantiated rumors spread and are acted upon. Unprovoked attacks on foreigners have occurred, many in the mid-1990s. In March of 1994, Melissa Larson, a woman from New Mexico, was hiking in Guatemala when she was taken to jail for routine questioning. Rumors quickly spread in the town of Santa Lucia Cotzumalguapa that she had been detained for selling babies and baby organs. When she was transferred to a larger jail, townspeople rioted, believing that she had bribed guards to be let free. The riot left sixty people hospitalized and led to fifty arrests (Morello 1994).

The following month, Alaska native June Weinstock was beaten unconscious and stabbed by a mob of about 300 angry villagers in western Guatemala. The 52-year-old woman suffered multiple stab wounds, three skull fractures, a broken arm, and a broken leg. She fell into a coma shortly thereafter and, as of 1994, had recovered from the coma but remained severely impaired. Weinstock was accused of abducting an eight-year-old boy who was actually at a religious procession and later returned home (Canto 1994).

In a letter to a travel magazine, James Sleeman of the U.K. writes, "[In Peru] we met Indians from the village where two Americans had stopped and been shot in 1995. The Aguaruna are very superstitious and most believe in mythical bogeymen called 'pishtacos.' . . . The Americans apparently were travelling by raft and decided to camp at dusk on an island which they did not realize was near a village; the locals panicked and shot them" (Sleeman 1997; for a fuller account, see Cahill 1995).

The child organ-snatching legend even made it to the European parliament.

Despite the dangers of such rumors, the allegations still circulate. In July 1998, Mexican Cardinal Juan Sandoval Iñiguez was quoted in *El Informador*, a leading Guadalajara daily newspaper, as saying that 20,000 Mexican children have been snatched and transported abroad so that their vital organs could be harvested. The cardinal failed to provide any evidence of his assertion or to name which country he believed was importing the children (Forbes 1998).

It is important to remember that urban legends are not necessarily harmless, and in fact can cause serious harm to innocent people. Rumors, urban legends, and misinformation can easily lead to disaster, and it serves us all to subject them to skeptical inquiry.

Acknowledgments

I would like to express my appreciation to Jan Harold Brunvand and Joe Nickell for their helpful comments and suggestions on this paper, and to Center for Inquiry librarian Tim Binga for his research help.

Notes

1. This sort of report is quite common, particularly in the spread of

BITTER HARVEST

Continued on page 48

Statement Analysis

SCAN or Scam?

Thousands of law enforcement and security personnel have been trained in "statement analysis" or "content analysis" for supposedly detecting deception. Theoretical and research support for the advertised "scientific" techniques is practically nonexistent.

ROBERT A. SHEARER

For several years, a very intriguing in-service training program on "content analysis" has been circulating through the law enforcement and security communities. Thousands of police officers and security personnel have attended such workshops throughout the United States. City, county, and state police, as well as firefighters and correctional personnel, have signed up to learn how to analyze a victim's or suspect's written statements.

Several consulting companies are providing this training, but the primary provider is the Laboratory for Scientific Interrogation (LSI) in Phoenix, Arizona. The laboratory offers, for a fee, a full range of training sites, a newsletter, cassettes, computer disks, and guidebooks.

The Training

In the training sessions, participants learn "scientific content analysis" (SCAN), which is a method of analyzing a suspect's written statement to determine if the suspect is deceiving an interrogator. In the field of detecting deception this is known as "statement analysis." Most of the training is conducted by current or former polygraph examiners charging from $300 to $600 per participant for a three- or four-day seminar. Participants can mail or fax statements to LSI to be analyzed upon completion of the course.

According to SCAN brochures, the course changes the process of obtaining information from an art to a science. Obtaining information from people will no longer be influenced by personality differences or the ambiguous clues of nonverbal communication. Instead, "you can take *the words that the person himself says*, and then analyze them in a systematic way" (Sapir 1996). It is also claimed that the course is an interdisciplinary, scientific approach that incorporates learning from many fields including linguistics, psychology, sociology, criminology, psychiatry, and salesmanship.

Statement analysis training has spread to the FBI Academy where it has been taught as part of interviewing and interrogation courses (Adams 1996). All in all, the training in statement analysis has been extensive, widespread, and lucrative in the field of law enforcement and private security. This is shown by the number of participants and the technique's respectability at national and international levels.

The Technique

Statement analysis requires that the investigator obtain the suspect's own words, unaltered and uninfluenced by the investigator. Suspects can either write their statements or dictate them to someone else (Hess 1997). Once the written statement is obtained, it can be analyzed to determine deception. It is also apparently important to analyze the statement before interviewing the suspect.

According to Adams (1996), statement analysis follows a two-step process that is very similar to traditional polygraph techniques. First, the investigator determines what elements are typical of a truthful statement, traditionally referred to in polygraph procedures as a control question or norm. Second, the investigator then looks for any deviation from this norm. It is not clear how much deviation is necessary to be considered real or significant.

The core of statement analysis is an examination of the parts of speech. To analyze a statement, investigators are taught to examine pronouns, nouns, and verbs and to establish the norm for each. Deviation from the norm could mean deception.

In addition, the technique of statement analysis focuses on extraneous information, lack of conviction, and the balance of the statement to determine possible deception. For example, Adams (1996) indicates:

> A truthful statement has three parts. The first part details what was going on before the event occurred; it places the event in context. The second part describes the occurrence itself, i.e., what happened during the theft, the rape, the fire, etc. The last part tells what occurred after the event, including actions and emotions, and should be at least as long as the first part [p. 20].

According to the theory, a suspect's statement is more likely to be true if the parts are "balanced." In other words, if each part contributes one third to the whole statement, then truth is indicated. Some degree of variation from perfect balance can be expected, but it is not clear how much is too much.

Proponents of statement analysis techniques indicate that the method can provide vital information in an investigation. The key advantage is the determination of deception.

The following is an excerpt from an actual transcript sent to LSI for analysis by a police officer who had attended SCAN training. The police department suspected that a victim and an assailant were conspiring to fabricate an assault so that they could subsequently sue the shopping center or department store on the basis of poor security measures. They wanted to know if the victim was deceptive in her written statement.

> At 9:45 p.m. on Saturday, January 21, I left my house and drove to the grocery store. It usually takes me 5 to 7 minutes to get to the store. I pulled into the parking lot and drove across the front of the store. There weren't any parking spaces available 6 or 7 cars deep on the front aisles and only handicapped slots available at the front of the building. I pulled around the corner where there are additional parking spots. I parked in the second lot from the front of the bldg. There was one car parked on the driver's side of my van and the passengers side slot was empty. There were a couple of cars

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parked further down the row. I got out and walked in front of my van to the passenger side to get my shopping list out of a bag behind my middle seat. As I was bent over reaching for the list, "a man" jumped on my back. He pushed himself up using my back. He reached for the collar of my coat and picked me up by it. As he did, he pulled my coat off and threw it. While he was doing that I screamed. He turned me around, slapped me, and then I saw that he had a knife. He was holding it in his left hand and had it at my waist on my right side. He had his hand on my mouth then turned me around to face my van again. His hand left my mouth and went to my breasts (on top of my shirt). Then he proceeded to unsnap my jeans and yank them down using his right hand and a foot. His hands were on my hips. His left hand held the knife and stayed stationary on my left hip. His right hand rubbed on my hip and then "I think" that was when I screamed "Help me" as loud as I could. He put both hands on my upper arms and threw me down to the parking lot. I don't know if I passed out immediately or not but I never heard his footsteps or a car start nearby. I do remember looking out along the curb of the sidewalk in front of my van. The customer parked on my driver's side hadn't left yet and I could see customers in the front lot walking to and from their cars. I believe everything happened just before 10 p.m. I have a vague recollection of the security light coming on and off many times. I also remember being able to see a car drive by coming from the front of the store towards the drug store that stopped. I thought maybe they saw me and would help. I felt very cold and unable to keep my eyes open. They drove away and I closed my eyes. The next thing I remember was voices talking about what has wrong with me.

After analyzing the statement, the conclusions provided to the police department by LSI were:

1. It didn't happen the way the subject described it
2. The subject might know the man.

These conclusions are not exactly the pinnacle of forensic science because they are vague and noncommittal. The police department would need to know which part didn't happen the way it was described or specifically which parts of the statement were deceptive. That the subject might know the man (or might not) would not seem to be of much help to the police, who need a specific conclusion instead of a hedge. Finally, the very fact that the statement was provided by a police department that was seriously suspicious of the statement, cued by the act of requesting it be analyzed, could alert the person doing the analysis that deception was likely.

The Theory

The theory supporting statement analysis and SCAN is sketchy at best and almost nonexistent at worst. Some of the theory in statement analysis literature is as follows:

- An honest person talks and writes differently from a dishonest person (Dietz 1997).
- *Every person has his own linguistic code (Sapir 1996).*
- The SCAN questionnaire is based upon one main principle that is universal, and not subject to any particular nationality, society, personality, etc. When people are given the choice to give their own explanation in their own words (answer open-ended questions), they would choose to be truthful. That does not mean that they would say everything. In other words, in most cases guilty persons would prefer to *give "incomplete truthful statements." They would give truth*ful information, but would omit one point: that they committed the crime. (LSI 1993–94).
- Truthful statements differ from fabricated ones in content, quality, and structure (Gudjonsson 1992).

The final theoretical statement in the above list seems to be the basis and most important assumption of statement *analysis theory. Evidently, Udo Undeutsch, a German psy*chologist, published this *hypothesis* in German in 1967 and later in 1989 in a Netherlandish publication. Gudjonsson (1992) provides a comprehensive discussion on statement analysis as it relates to the truthfulness of documents. He identifies the theoretical assumptions, criteria, followers, *and validation studies of the technique, which he labels* "semi-objective" (203). Unfortunately, in his discussion of validation studies, he does not provide any research evidence to support the technique. Regardless, the technique is simply based on a hypothesis that does not seem to be very well developed but has led to some interesting claims.

The theory supporting statement analysis and SCAN is sketchy at best and almost nonexistent at worst.

The Claims

Accompanying the rapid development of statement analysis training has been the rise of claims regarding what the training will accomplish and how effective graduates of the training will be. Some of these claims are:

- SCAN will solve every case for you quickly and easily (LSI 1996).
- Everyone wants to tell you everything—even the people who commit crimes (Scientific Content Analysis 1996).
- SCAN is the tool that will give you the truth (Sapir 1996).
- Every word in the subject's statement will "talk" to you and show you the answer (Scientific Content Analysis 1996).
- Your new skills can be put to use immediately and will yield greater success in your investigations (Dietz 1997).
- You will also learn how a truthful person talks and writes, as distinguished from a deceptive person (Dietz 1997).

These are obviously extraordinary claims that we would expect to be supported by considerable scientific evidence. This is more expected because the techniques are heralded as "scientific" and not subjective. Several points can be made concerning these claims that question the entire field of

"statement analysis," "content analysis," "discourse analysis," or whatever proponents choose to label these techniques.

Discussion and Conclusions

Statement analysis has been a fascinating and confusing area of criminal investigation. Detecting deception has been of particular interest to law enforcement investigators. The field has a near-obsession with polygraph and kinesic interviewing techniques. The potential of these techniques has been explored through legitimate research, and, potentially, statement analysis may prove to be a useful tool for investigators. Until we have more information about statement analysis, so that training and practical applications don't far outstrip valid support, we need to be very cautious. There are several serious concerns regarding statement analysis.

Until we have more information about statement analysis, so that training and practical applications don't far outstrip valid support, we need to be very cautious.

First, the validity and reliability of statement analysis has not been established. Most of what we know is based on theory at best and erroneous speculation at worst. It is not clear in the statement analysis literature what is "scientific" about the procedure. For example, we do not know the false positive or false negative rates for statement analysis—when investigators disbelieve a true statement or believe a false statement, respectively. Second, much of the literature of statement analysis is vague, imprecise, and ambiguous. Discussions are filled with words like "usually," "maybe," "might," or "generally." Quantification is rare, so caution is in order when drawing any conclusions from the literature. Third, the theory of scientific content analysis is supported by broad sweeping generalizations or "universal" beliefs. Fourth, the distinctions between written statements for men and women are nonexistent in the literature. The proponents of statement analysis would have us believe that there are no gender differences in interpreting written statements. This is quite risky in the absence of any data to support a hypothesis in either direction. Fifth, the issue of interpreting written statements raises the issue of cross-cultural differences with regard to deception. None of the training programs circulating through the law enforcement community qualify techniques in the area of multicultural applications. This would be considered primitive in most professional training organizations. Sixth, concerning the claims made by the training organizations, very unlikely or extraordinary claims should be met with extreme care and skepticism and must be supported by extraordinary evidence (De Jager 1992). Statement analysis is supported by personal testimony and anecdotal evidence that would hardly be considered "extraordinary."

In addition, SCAN would seem to fall prey to what Ekman (1985) terms the "Brokaw Hazard" (named after the NBC anchorman who, according to Ekman, committed this error in an interview): The mistake of ignoring or underestimating individual differences in people's style of speech, writing, or emotional expression. The mistake is "a failure to recognize that some truthful people become emotional when suspected of lying" (172). Consequently, detectors of deception will frequently be mistaken unless they possess a good understanding of the given individual's baseline characteristics of oral or, in the case of SCAN, written expression.

Finally, it is not clear from the SCAN literature whether the judgments of investigators who use the technique could be contaminated by extraneous information contained in the proportions of individual's stories describing what occurred prior to the event, during the event, and after the event. Do we know that these ratios are what SCAN interpreters actually rely on when rendering judgments of deceptiveness? Is it possible that SCAN interpreters actually use extraneous information in individual's stories that are suggestive of dishonesty? If a police department takes advantage of the SCAN service and sends the confession to be analyzed, without the knowledge of extraneous information, the possibility of contamination is minimized. On the other hand, if the interpretation is completed locally, the possibility of contamination by extraneous information becomes a much greater threat to the validity of the technique.

Where does this leave the criminal investigator concerning statement analysis? The answer could be that this is a valuable technique useful in analyzing written statements. Gudjonsson (1992) maintains that statement analysis is "based on a solid theoretical foundation and early validation of the technique is promising" (204). For other scientists who have reviewed SCAN, the technique appears to be an attempt to extend scientific legitimacy to uncontrolled and unverifiable pursuits for financial and dubious societal gains. Unfortunately, the most that can be said for SCAN is that it is a highly successful training program, attended by thousands of police and security officers, a program whose theoretical and research support remains unconvincing.

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NAGPRA, Science, and the Demon-Haunted World

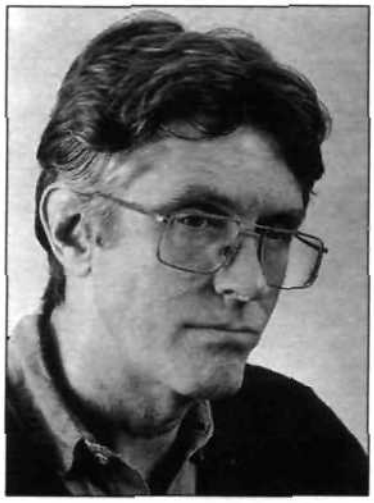
The Native American Graves Protection and Repatriation Act (NAGPRA) has ramifications that extend far beyond how archaeology is conducted in the United States. It throws into sharp relief the conflict between science-like views of the world, and those of the various anti- and pseudo-science constituencies arrayed against them.

GEOFFREY A. CLARK

In 1990, after two decades of lobbying by Indian activists critical of the practice of archaeology as a science-like endeavor, Congress passed into law the Native American Graves Protection and Repatriation Act (Public Law 101-601), commonly known as NAGPRA. NAGPRA changed how archaeology is done in the United States in ways that were only dimly perceived at the time by its backers (some Indian political activists, federal and contract archaeologists) and its opponents (mostly archaeologists in academic and museum settings). I believe that NAGPRA is basically "anti-science" in terms of the biases, preconceptions, and assumptions that underlie the law and that it proceeds from an antievolutionary perspective grounded in fundamentalist

religious belief. As such, it favors the religious beliefs of Native Americans over those of other Americans, and stands in violation of the First Amendment to the Constitution.

I am a paleoanthropologist and Old World prehistorian interested in epistemology—how we know what we think we know about the remote human past (Clark 1992, 1993). More precisely, I am interested in the logic of inference in what I call "deep time"—the Plio-Pleistocene archaeopaleontological records of Africa and western Eurasia (Clark 1997a). I am a different kind of archaeologist from most of the people involved with NAGPRA on a daily basis. I mention this because I think the kind of archaeology one practices has implications for how NAGPRA is regarded, and whether or not one is disposed to be sympathetic to it as a mechanism for redressing historical wrongs. In terms of my biases, I am a committed evolutionist and, like most evolutionists, a materialist to the core. These philosophical considerations in turn affect how I view archaeology, and my vision of archaeology's place within the broader context of Western science (Clark and Barton 1997).


Geoffrey A. Clark

While I readily acknowledge its defects, I am a staunch and unapologetic admirer of science. Like it or not, the modern world is almost entirely a product of science. Despite unparalleled success, however, science is currently under assault by various pseudo- and anti-science constituencies that attack the materialism that is the central ontological bias of the scientific world view. Usually considered a "science-like" endeavor, archaeology is caught up in this controversy. Laws like NAGPRA strike at the heart of a scientific archaeology because they elevate Indian cultural traditions and religious beliefs to the level of science as a paradigm for describing or explaining reality. Political considerations thus take precedence over disinterested evaluation of knowledge claims, with tragic and irreversible results (Clark 1996).

Because of my preconceptions about the place of humans in the natural world, I think archaeology is, or should be, a "science-like" endeavor—as opposed to a political enterprise, a business (e.g., the "heritage industry"), a platform for promoting a social agenda, or an exercise in public relations. And I think that most American archaeologists, whether or not they acknowledge it publicly, subscribe to exactly the same kinds of assumptions about the nature of the world, and the place of humans in it, that underlie all of Western science. The problem is that they are forced to compromise their beliefs (or keep silent about them) for the sake of political expediency.

Science and Religion

Science can be defined as a collection of methods for evaluating the credibility of knowledge claims about the experiential world. Science does not pretend to certainty; it only seeks better and better approximations of it. Scientific conclusions are continuously subjected to critical scrutiny. Science is, therefore, self-correcting. No topic or question is off-limits to science. The only thing that is antithetical to the scientific world view is dogma. Dogma is the stuff of religious belief. From the standpoint of science, the illusion of absolute, unchanging truth is the most pernicious of vanities.

Physicist Edgar Pearlstein (1997) points out that the essential disagreement between science and religion is not in the conclusions (e.g., evolution, the heliocentric solar system, the origin of disease), but rather in the way of arriving at conclusions. Religion relies upon authority (from a book, a person, or tradition) and its truth is claimed to be universal, unchanging, and eternal. In science, authority lies in evidence and reason, which are always open to challenge, so its truth is always relative and tentative. Scientific investigation starts with a question, and tries to find an answer through strong inference founded on evidence and reason. A theological investigation, on the other hand, starts with a conclusion, and tries to wiggle around any impediments of logic and reason in order to warrant, or justify, that conclusion (Pearlstein 1997).

Evolution and Materialism

There are, of course, many views of humans and their place in the natural world. I argue, however, that there is only one scientific view—that of neo-Darwinian evolutionary theory. As the most powerful explanatory framework that humans have ever devised to account for the origins and diversity of life on Earth, evolution is central to Western science, extends far beyond the life sciences in which it arose, and subscribes to the same materialist biases and assumptions that underlie all of science.

Materialism is the idea that only matter exists, and that what we regard as "mind" or "spirit" consists exclusively of matter arranged in complex ways (Gould 1994). More precisely, "mind" is a consequence of brain evolution, and, because our brains have evolved over the 5 million years for which we can document the existence of the Hominidae, what constitutes "mind" has also evolved. From this perspective, humans are only animals (albeit highly intelligent, technologically sophisticated, socially complex ones). Religious views of humans and their place in nature, dependent as they are on concepts that have no reality outside the mind, are epiphe-

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nomena (and—for a materialist—absurd). Despite our very considerable capacity for compartmentalization (see, for example, Estling 1998), one cannot simultaneously understand and accept evolution and its philosophical underpinnings, and sustain a belief in the nonmaterial. From the standpoint of science, religious beliefs are curious survivals of earlier cognitive evolution (e.g., Mithen 1997a,b). As our cognitive capacities expanded slowly over the long millennia of the Pleistocene, we came to imagine more and more complex realities, and populated them with the gods, demons, and spirits that are the stuff of conventional religious belief. Religious tenets and precepts (especially those dealing with morality and ethics) are *ex post facto* rationalizations for existing social conditions. To the extent that they converge cross-culturally and through time, it is because they reflect universal aspects of human social life.

To recapitulate, (1) philosophical and methodological materialism underlies the scientific world view, (2) the scientific world view regarding humans is grounded in Darwinian evolutionary theory (Scott 1997), (3) archaeology is "science-like" in terms of the preconceptions that underlie its logic of inference and its knowledge claims, and (4) this world view puts those archaeologists who worry about such things at odds with the antimaterialist belief systems of Indians (and those of Americans in general). NAGPRA is, therefore, only a very small part of a much larger controversy that extends to many aspects of modern American life. That controversy turns on the conflict between the world views of science and religion. Carl Sagan summarized the issues underlying this debate in *The Demon-Haunted World*—recommended reading for scholars of all persuasions, regardless of their views on NAGPRA (1996; see also Sagan and Druyan 1992).

What Is NAGPRA About?

NAGPRA is basically about the repatriation to Native American claimants of human remains and funerary objects from museum or federal agency collections, and those recovered from Indian lands (Ferguson 1996). These remains, in the United States and elsewhere, are viewed by science to pertain to a generalized human past, to be part of a universal heritage not circumscribed by ethnic or cultural boundaries. However, legislation enacted in recent years has given the cultural traditions and religious beliefs of Indians greater weight under the law than the universalist perspective that underlies scientific inquiry. Motivated by political expediency, and the kind of anti-science sentiment to which I have just alluded, NAGPRA requires the consultation in archaeological excavation of very broadly defined Native American constituencies. It also mandates the repatriation and reburial, if so desired by native claimants, of human remains and funerary objects, sometimes including those not affiliated with any known or recognized Native American group.

The (Mostly) Rotten Fruits of NAGPRA

NAGPRA creates both short-term opportunities and long-term problems for archaeologists, bioarchaeologists, and for those branches of physical anthropology concerned with the study of human skeletal remains. It creates opportunities (1) because the NAGPRA-mandated inventories employ many archaeologists and physical anthropologists (albeit temporarily); (2) because it has forced the profession to clean up its act regarding curation and record keeping, and (3) because minimum descriptive standards are being applied to the human skeletal collections (Rose et al. 1996). It creates problems because NAGPRA puts ethnicity and religious belief on an equal footing with science, and thus provides a mandate for claims of affiliation by virtually any interested party. As is true of any ethnic or racial category, however, "Native Americanness" has only a political definition. Anthropologists acknowledge the statistical, clinal character of race and ethnicity; the government does not (Clark 1998a). Federal agencies and state legislatures, which have often gone far beyond NAGPRA in their zeal to be politically correct, don't want to be bothered with such subtleties (after all, anthropologists are an even weaker political constituency than Indians). The result is that claims for the repatriation of human remains and "objects of cultural patrimony" can be extended to include just about anything identified as "affiliated" by a claimant. The process thus becomes entirely political, with science, represented by archaeology, the inevitable loser.

Physics Envy and Archaeology's Many Anxieties

Archaeology is admittedly a "small science," only weakly developed conceptually and characterized by few of the powerful law-like generalizations that underlie the spectacular progress of mainstream, experimental "big science" disciplines like physics. Despite its many shortcomings, however, archaeology in the United States has always been a "science-like" endeavor in the sense that it subscribes to the same collection of materialist biases and assumptions that underlie all of science. Moreover, its achievements have been substantial. We are all the losers if, for reasons of political expediency, Indians rebury their past. One of the many ironies in the situation provoked by NAGPRA is that many Native American groups who favor the preservation of archaeological and skeletal collections are being co-opted by the actions of small, but vocal, activist minorities in cahoots with ignorant legislators willing to sell the profession down the pike for the sake of short-term political gains.

Operationalizing NAGPRA Provisions

In addition to the conceptual problems, there are also problems with operationalizing NAGPRA. These are thrown into sharp focus by the ridiculous situation surrounding Kennewick Man, a 9,300-year-old human skeleton with allegedly "non-Indian" affinities found eroding out of a cutbank on the Columbia River near the town of Kennewick, Washington, in 1996 (see, for example, Morell 1994, 1998). Kennewick Man is the focus of a bitter controversy that pits Native American religious beliefs against archaeologists' still-evolving theories about human colonization of the New World, and clearly has considerable scientific importance. But,

under their construal of NAGPRA, the U.S. Army Corps of Engineers, which has jurisdiction over the site, wants to turn the skeleton over to the Umatilla Tribe of northeastern Oregon for reburial, with no scientific evaluation of its significance—in fact, no study at all. This effort has been blocked—temporarily, at least—by a lawsuit by eight prominent anthropologists. The case is still in court.

Although by no means unique, Kennewick Man underscores a fatal flaw in NAGPRA, which is predicated on the assumption that anthropologists can in fact identify prehistoric antecedents to extant identity-conscious social groups. However, anyone reasonably familiar with evolutionary biology would recognize immediately that they cannot do that reliably or consistently. Race and ethnicity are fleeting, transient things. They are written on the wind. They do not partake of the timeless "essences" the public, in its lack of understanding of biology and culture, would impart to them (Clark 1997b,c). There is no basis in science for thinking that present-day ethnic groups *even existed* as recently as 400 or 500 years ago, much less in more remote time ranges. The notion of fixed, enduring, bounded ethnicity is positively quaint from the perspective of modern population biology (see, for example, Wolpoff and Caspari 1997, Molnar 1998). Nevertheless, it is endorsed and reified by the type of thinking institutionalized in public policy by our own government. If you are inclined to be skeptical, look sometime at the absurd racial and ethnic categories concocted by the U.S. census and replicated on application forms throughout the land (Clark 1997c, 1998b). Indian claims for ancient skeletal remains based on assertions of ethnic relationship, geographical proximity, or historical connection grounded in "pan-Indianness" are without foundation. Popular conceptions of race and ethnicity as discrete or bounded entities have no basis in modern science (AAA 1998). Consequently, efforts by anthropologists to trace them back very far into the past are likely to be doomed to failure.

Anthropologists have been, and will continue to be, allied with Indians in their quest for social justice and in efforts to improve the socioeconomic conditions of their existence. From the liberal philosophical standpoint to which I—and most anthropologists—subscribe, this is as it should be. However, obstacles to this alliance are created by a simple-minded essentialism that pervades the whole discussion of race and ethnicity in the U.S.—an essentialism that permeates the NAGPRA debate and that has, or should have, no place in the scientific world view. While I am sympathetic to the socioeconomic concerns of Native Americans, I have little patience with, nor sympathy for, the contention that races and ethnic groups are somehow "fixed" and immutable, bounded in space and time. The fact that "the oppressed" (i.e., Indians) subscribe to the same essentialist notions of ethnicity as "the oppressors" (i.e., the government, or Americans in general) doesn't mean that these notions are scientifically credible (Clark 1997b,c; 1998a). The justification for NAGPRA is ultimately a religious one (for example, Hopi origin myths are invoked to claim control over human remains from roughly 20 percent of the continental United States). That intelligent, well-educated people cannot see the problems with this is due, in my opinion, to ignorance of evolutionary biology (archaeologists usually have little or no exposure to this field), and, more generally, to the human tendency to compartmentalize thinking. We shift referential and conceptual formats when we're talking or writing about science, religion, politics, economics, etc., with little cross-linkage amongst these intellectual domains (Clark 1987).

Race and ethnicity are fleeting transient things. The notion of fixed enduring, bounded ethnicity is positively quaint from the perspective of modern population biology

Wreaking Vengeance on History

NAGPRA is an attempt to redress historical wrongs by giving Indians a voice in the disposition of the remains of their ancient forbearers. However well-intentioned, the law was quickly coopted by what might be called Indian creationists who have invoked, often successfully, a revealed wisdom in respect of their origins that is not to be challenged, questioned or investigated in any way (Egan 1996, Meighan 1996). These claims do not differ in kind or in detail from those embodied in the Judaeo-Christian origin myth (i.e., the Book of Genesis).

No one disputes that Indians have suffered mightily at the hands of the European colonists who came to dominate American society. No one is arguing that scientists have always acted responsibly in respect of human skeletal material under their curation. No one is suggesting that if we can just somehow "decode" nature correctly, that moral truth will be revealed. Yet the loss of prehistoric skeletal material to science is incalculable, and that consideration should take precedence, in my view, over the religious concerns of Native Americans. *The world views of science and religion are fundamentally incommensurate.* They cannot be reconciled. Science is not about religion, however. Science is not about moral truth, although it can sometimes help us in our struggle to reach moral decisions (Gould 1994).

Clearly, humans did not evolve in this hemisphere. Indians haven't "always been here," haven't always been where they are found today, regardless of what their origin myths might say. I am curious as to how they came to be here, and what happened to them subsequent to their arrival. The best way (in fact, the only way) to get at these questions is through the analysis of prehistoric human skeletal material. The idea that we should spend a bundle of money now to study it like crazy—before we give it back—is ridiculous on the face of it, since it presupposes that science will not advance, and that new avenues of inquiry will not be opened to us. It also assumes that data exist independent of the conceptual frame-

works that define and contextualize them, which, from an epistemological standpoint, is terminally naive (Clark 1991). Most of what passes for intelligent discourse about NAGPRA consists of what I would call "psychodrama," and betrays a near-total ignorance of evolutionary biology on the part of nearly all concerned. Psychodrama is the stuff of religious belief (and politics), and has no place in science. A direct consequence of the national paroxysm of guilt surrounding the quincentenary, NAGPRA is bad law. It is in the interests of Indians and Anglos alike that it be repealed.

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BITTER HARVEST

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urban legends. The term for the phenomenon is "source amnesia." It occurs because factual information is apparently stored in a different part of the brain than the source of that information. So while the information itself is retained, the source may be misremembered or lost, and of course the source is essential for determining the credibility of the information.

2. Some of the body parts mentioned here, such as corneas and fat, are not organs. The distinction is important because corneas, as nonvascular tissue, need not be implanted in a recipient immediately. They remain viable for between one and two weeks, while a kidney must be implanted within approximately two days. Because of this, claims that kidneys are taken from rural areas in Latin America and shipped to Europe, for example, are highly suspect; the kidneys would likely be unusable when they arrived. In the case of fat theft, the usual reason for the harvesting is not transplanting, so such considerations are not applicable.

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Abduction Reports as Modern Myth

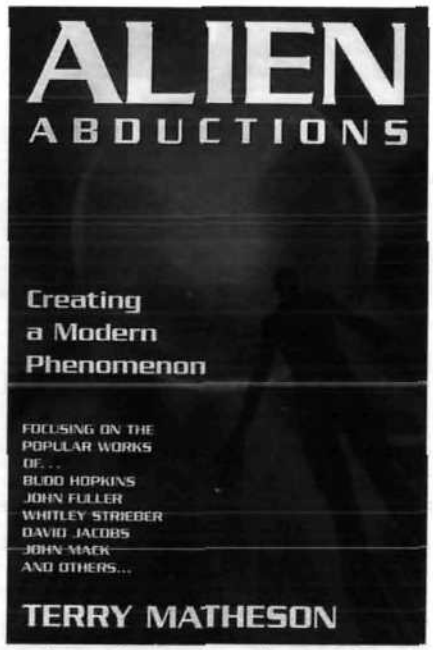
Alien Abductions: Creating a Modern Phenomenon. By Terry Matheson. Prometheus Books, Amherst, N.Y. 1998. ISBN 1-57392-244-7. 317 pp. Hardcover, $26.95.

PETER HUSTON

Few long-time readers of this journal will argue that most reports of UFOs and related matters—abductions, cattle mutilations, crop circles, and so on—don't soon give way to prosaic explanations. And the few reports that don't turn up prosaic explanations tend to be inconclusive at best, hardly offering the "hard proof" that should be necessary before we believe in ongoing alien visitations. Clearly, since the first modern UFO sighting was in 1947, one would expect some sort of undeniable proof by now if there were real alien visitations going on. Yet despite this lack of hard evidence, the entire field of UFO beliefs shows no signs of going away. In fact, the claims are actually getting broader in scope. What's going on?

For some time now, I've been telling people that what we are seeing with the UFO phenomenon is not something real, as in spaceships visiting Earth, but something equally interesting, perhaps the development of a modern mythology. Yet, paradoxically, few skeptics seem to have shown much interest in writing about this aspect of the UFO phenomenon (or should I say "non-phenomenon"?)—until now. And that's why I like this book.

Terry Matheson is an English literature professor at the University of Saskatchewan, a man whose professional expertise lies in analyzing texts and literature. He's written this book specifically



analyzing that curious subgenre of modern literature, mass audience, popular UFO abduction reports. Some readers will question this premise. Are these texts really literature? They are, after all, generally placed in the nonfiction section, and the authors do claim to be describing real events.

For this reason, early on in the work, Matheson describes the case of Antonio Villa-Boas, an early abduction report from Brazil. He analyzes the way the event has been described by five different UFO authors, cataloguing which facts the authors chose to include and which they deemed unimportant and noting several discernible differences in selection and emphasis. It's a simple but convincing demonstration of his basic premise. When an author describes an event, he also interprets it and selects which elements to emphasize and include. This unavoidable process is perhaps especially important when describing far-fetched events such as UFO abduction reports.

It should be pointed out that, outside of analyzing these texts, Matheson makes no attempt to get at the underlying facts of the case, and for this reason it's quite likely that some skeptics may find themselves lost when they search for the systematic debunking they've come to expect in skeptics' books. On the other hand, many readers, myself included, will simply acknowledge that we've seen UFO abduction reports debunked and explained elsewhere. Matheson is not claiming such reports are true nor dismissing the issue of truth or falsehood. After all, how could a mythology develop if the events were completely true? Instead he is moving beyond the issue of veracity to describe the meaning and the evolution of the claimed phenomenon.

For this reason, this work is probably not the best introduction to skeptical UFOlogy. On the other hand it does make many new contributions to the

Peter Huston is author of Scams from the Great Beyond *and other books. He lives in Schenectady, New York.*

way skeptics can look at these claims. For instance, few people took George Adamski's reports of being a UFO contactee seriously, but many took John Fuller's reports of Betty and Barney Hill's abduction story quite seriously indeed. Why? To Matheson this is quite an important issue. How does an author take an unlikely event like a UFO abduction claim and make it convincing? Matheson carefully selects and discusses the techniques each author uses. He also discusses which techniques failed and which worked.

Skeptics who have closely examined the history and variety of UFO abduction reports soon realize that the popular claim of commonality that all abductees reported common events is false. In fact there is great variety and difference in the details of such reports, and they most certainly have changed over the years. But how exactly do the reports differ? Which elements of these stories cropped up in which reports? Which of these elements were then repeated by other abductees and which were discarded, never to be heard or seen again?

Matheson has done all skeptics a great service by carefully analyzing this element of the abduction literature, and I expect to be consulting his work for this very reason over the next several years. He is also quite good at finding internal inconsistencies in the text and discussing how the author has dealt with these (either through denial, offering some sort of attempted explanation or simply through attempting to edit the facts to hide the problem). Among the works analyzed are those of Budd Hopkins, John Fuller, Whitley Streiber, David Jacobs, and John Mack.

The book does have flaws. There are places where Matheson seems to wonder why the authors of the UFO texts do not engage in the sorts of analyses common to literary analysis, which he feels are appropriate for interpreting not just literature but actual events. For instance, at one point he wishes that UFO text authors would spend more time discussing Jungian archetypes. Personally I was quite bothered by many points where Matheson attempted to discuss hypnosis—a near-universal "tool" to uncover UFO memories. Although Matheson understands that leading questioning during hypnosis can easily create false memories and produce confabulation, he seems to believe that some UFO abduction reports can be "screen memories" of repressed sexual abuse reports. He should know that there is no scientific evidence that memories of long-term abuse can be repressed, recovered, or manifest themselves as "screen memories."

In fact, it is the very mistaken belief that hypnosis can "recover repressed memories" that continues to fuel much of the entire UFO abduction mythology. (A recent essay in the online publication *Abduction Watch* argued that while hypnotic "memory recall" is being discarded by most fields, it is continuing in the UFO abduction field. The author argues that this is because nonexistent space aliens, unlike falsely accused parents, cannot sue bad therapists.) Elsewhere, he states that the population of the USA is 300 million. The editors of this work should have done a more rigorous job of fact checking before putting the book into print.

Nevertheless, I recommend this book highly to skeptics who are interested in UFO reports. Stephanie Hall, a Ph.D. folklorist, once stated, "Skeptics often stop looking at things just when they get interesting," and I do think she has a point. Informed skeptics know that these reports are false. This book heads out into the next step. It attempts to describe what the reports mean and where they came from, and this is an important step in understanding what's really going on with UFO abduction claims. □

Don't Think About Pseudoscience...

Without Skeptical Inquirer

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The Goddess Has No Clothes

ROBERT SHEAFFER

Goddess Unmasked. By Philip G. Davis. Spence Publishing, New York, 1998. ISBN 0-9653208-9-8. 418 pp. Hardcover, $29.95.

One of the fastest-growing new religions today is a neopagan tradition termed "Goddess spirituality." It is especially popular among New Age disciples and radical feminists but its teachings are accepted at least in part by a large segment of society. The Goddess whispers a seductive tale of a golden age in a distant past. A paradise supposedly existed in Europe and probably elsewhere during the Neolithic era (fans of the Goddess greatly prefer that dignified-sounding term to the more comprehensible "New Stone Age"). Supposedly, there was little or no conflict, little or no social hierarchy, and most especially, no gender discrimination or sexual inequality. The reason these Goddess societies were such paradises, we are told, was because they were "gynocentric" (woman-centered), perhaps even actually "matriarchal." Indeed, the U.N. Fourth Conference on Women in Beijing in 1995 featured a full-size "reconstruction" of a supposed "ancient matriarchal village," complete with a giant pair of female breasts, one above the other, to guard the entrance.

The only problem with this tidy picture is that it is wholly unsupported by sound scholarship, rejected by virtually all professional scholars whose field of expertise lies within the Goddess's claims. With few exceptions, however, these scholars are reluctant to speak out too forcefully against Goddess misinformation for fear of being branded "anti-feminist." Consequently, the Goddess claims have seldom been critically examined. With *Goddess Unmasked*, we now have a book that brings together the best refutation of rampant Goddess nonsense, written by a professor of religious studies at the University of Prince Edward Island in Canada. Davis observes that "we do not possess a single translated text" from any of these supposed major Goddess cultures, leaving anyone who is so inclined free to attribute to those vanished societies whatever social arrangements they are most eager to promote in our own.

Indeed, a cynic might suggest that the Goddess can only reign supreme over societies in which no one can read or write. (But some movements are so irrational that they are impossible to satirize. Neurosurgeon Dr. Leonard Shlain suggests exactly that in *The Alphabet vs. The Goddess*: when logical left-brained patriarchs invented writing, it doomed the intuitive, right-brained Goddess cultures!)

Today Goddess misinformation has entered the curriculum in far more places than most people realize. The Goddess actively promotes "alternative medicine," especially in schools of nursing. Davis quotes from one prominent neopagan book: "Women have always been healers, and the knowledge of healing—of aura work, colors, herbs and homeopathy, reflexology, midwifery, massage, crystals, and trance states—have always been part of the goddess' mysteries." The Goddess misrepresents the history of religion, depicting it as a struggle between warm and nurturing female-oriented religions and exploitative, death-dealing male-dominated ones; conventional scholarship knows nothing of this supposed struggle, or indeed of those categories of religions. (The Goddess Kali, worshipped widely in India, demanded human sacrifice. She ruled over a society in which a person's caste was fixed at birth, and widows were burned on their husband's funeral pyre. The Goddess writers, notes Davis, present their evidence highly selectively.) Indeed, the Goddess misrepresents the entire history of civilization, portraying it as a struggle between early utopian, female-dominated societies, and later violent, hierarchical and patriarchal ones; professional historians dispute that there ever was a "matriarchal" or "woman-centered" stage of civilization.

Perhaps most seductively of all, the Goddess misrepresents her own history, claiming to be the heir of an unbroken line of covert pagans and druids who secretly preserved the Goddess's occult healing ways since remote antiquity despite Christian persecution. Davis convincingly traces the origin of the contemporary Goddess movement not to classical antiquity but to nineteenth-century French and German Romanticism. "Nothing about the Goddess myth correlates with what we know of the ancient civilizations which her devotees claim as their foremothers; everything, however, has clearly identifiable roots in the modern subcultures which began with Romanticism and the nineteenth-century occult revival." In Romanticism, "the supreme importance of feelings, and the purity of the primitive," were emphasized.

"The prized Romantic values of emotion, intuition, affinity with nature, and boundless love coincided with the qualities which traditional stereotypes had already assigned to women."

In his version of *Faust*, Goethe wrote

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of mysterious, otherwise-unknown beings called "The Mothers," whose power Mephistopheles acknowledged to be far greater than his own. Goethe concluded that work with his enigmatic and famous line, "The Eternal Feminine draws us on high." Works by utopian social reformers like the Count of Saint-Simon, Charles Fourier, Auguste Comte, Jules Michelet, Alphonse Constant, and others, enormously influential in their day, promoted a viewpoint Davis describes as "the Romantic idealization of women as spiritually pure channels of love, intuitively connected to nature." These utopians, who sought not merely to improve society but to create a literal paradise on Earth, suggested that the key to re-establishing Eden lay in the redemptive powers of woman as messiah. Indeed, one French Saint-Simonist group proclaimed in 1832 the imminent appearance of a female messiah, and symbolically kept an empty chair for her to preside over their meetings. When she failed to appear in France, a vision showed her appearing in Constantinople in 1833, resulting in an expedition to search for her there; she was never found.

After the utopians' hopes for an earthly paradise were dashed by the failure of Europe's revolutions of 1848, Alphonse Constant took to dabbling in the Kabbalah, and began calling himself "Eliphas Lévi." He played a major role in the nineteenth-century occult revival, while still promoting ideas of earthly salvation through the feminine. Direct lines from his writings and from his disciples can be drawn to subsequent Rosicrucianism, Theosophy, and most significantly the Hermetic Order of the Golden Dawn, which gave us Aleister Crowley, from whom it is only a short step (via Gerald B. Gardner) to the contemporary feminist neopagan practices of Miriam "Starhawk" Simos, Zsuzsanna Budapest, and Margot Adler.

Late in the nineteenth century, works by J. J. Bachofen and Friedrich Engels claimed to discern, in the dim mists of prehistory, a supposed "matriarchal" stage of civilization. Today's historians and anthropologists uniformly reject these century-old speculations (as did most historians even at the time they were written!). However, Bachofen and Engels have had and continue to have wide followings, owing largely to popularization by writers like Robert Graves, Lewis Henry Morgan, Jane Ellen Harrison (who later repudiated "ancient matriarchies"—a fact, Davis reminds us, that Goddess writers never mention), with indirect support from Sir James Frazer, the ubiquitous Carl Jung and his "archetypes," and Joseph Campbell.

Davis has shown conclusively that the Goddess traditions are passed down not from ancient pagan teachers, but from latter-day ones with names like Eliphas Lévi, Aleister Crowley, Margaret Murray, and Gerald B. Gardner.

While this does not invalidate New Age neopagan practices as religion—all religious practices were new at some time—it certainly explodes one of their proudest claims: that the followers of *wicca* (mistranslated by Gardner as "the wise"—it is actually the Old English word for a male sorcerer) have been secretly worshipping "the Goddess" for millennia, and have preserved her supposed ancient wisdom and healing secrets, which are now widely touted as "alternative medicine."

In 1967 a new abridged English translation of Bachofen's *Mother Right* appeared. The American librarian Elizabeth Gould Davis seized onto it and in 1971 published *The First Sex*. This sensationalist book not only promotes "ancient matriarchies," but claims that women evolved before men did, by which time women had already invented everything useful! (She asserts that "the first males were mutants, freaks produced by some damage to the genes." Robert Graves urged that the book be studied in all schools.) The art historian Merlin Stone, drawing largely upon the twentieth century speculations of Margaret Murray and Robert Graves, published in 1976 an equally unscholarly work titled *The Paradise Papers*, later republished as *When God Was a Woman*. It painted many ancient societies, prominently among them Egypt, as matriarchal paradises. She suggested that the ancient Hebrew priests must have been Indo-Europeans, not Semites, because they were so patriarchal, and found it "ironic" that Aryan Nazis would end up exterminating equally Aryan Jews. She also attempted to link Hitler's teachings to the ancient Hittites largely because of the similarities of the names, suggesting that his atrocities had been inspired by archaeological findings about these allegedly brutal, patriarchal ancient peoples. The modern Goddess movement was now in full steam.

In 1987 Riane Eisler published her highly influential *The Chalice and The Blade*. She planted her supposed pre-patriarchal paradise firmly in Crete, basing her research on the two previously-mentioned books, on Afrocentric texts claiming that the Greeks stole their knowledge from supposedly black Egyptians, and an assortment of odd sources like Frijtof Capra's *The Tao of Physics*. The late archaeologist Marija Gimbutas, perhaps the only Goddess writer with proper professional credentials, followed upon Eisler's success with several impressive-looking, beautifully illustrated Goddess books, and quickly became the leader of the movement. When asked in a 1989 interview how she could know whether she had gone "too far" in drawing conclusions about her supposed Goddess paradise, Gimbutas replied, "This has to do with your intuition and experience. Just like an art creation you must feel that you are right in what you are saying."

As not only a scholar of religion but evidently a practicing Christian, Davis expresses serious concerns about the stealthy encroachment of neopagan "Goddess theology" into traditional religious institutions. Indeed, at times he is clearly envious of the upstart creed's remarkable growth during a time when mainstream religious denominations have largely been in decline. Many of his readers will not share these concerns. To many skeptics, ideas of spirituality

grounded in "the Goddess" are neither less nor more valid than comparable ideas grounded in conventional theology. But when the Goddess followers promote claims that are factually incorrect—and especially when such falsehoods enter the curriculum, unchallenged—the skeptic feels it necessary to move into action. This becomes especially urgent when we see that many Goddess writers display not merely poor scholarship, but a flagrant disregard for truth. Davis comments on the Goddess writers' special fondness for quoting the French feminist Monique Wittig's advice concerning alleged ancient matriarchies: "Make an effort to remember. Or, failing that, invent."

One of the eye-openers in *Goddess Unmasked* is Davis's observation that "after the long struggle to free higher education from church control, the doctrines of a new religion are being packaged and promoted as factual material for use in publicly funded and accredited institutions." Secularists, ever vigilant in keeping creationism out of public education, slept as equally unfounded neopagan doctrines slipped in completely without objection. Fortunately, *Goddess Unmasked* contains a rich lode of information detailing the factual errors that are being promoted in the Goddess's name. It is this information that makes the book invaluable to anyone who cares about the truth—and especially to those determined to keep the teachings of all religious sects out of publicly supported schools. □

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NEW BOOKS

***The Fateful Hoaxing of Margaret Mead: A Historical Analysis of Her Research.* Derek Freeman.** Westview Press, 5500 Central Ave., Boulder, Colo. 80301-2877, and Oxford, U.K. 1999. ISBN 0-8133-3560-4. 279 pp. Hardcover. $24. An examination of Margaret Mead's fieldwork in Samoa in 1925–1926, the writings she based on this fieldwork, and how Mead's conclusion of 1928 came to be generally accepted by other anthropologists. Freeman, here in his second book on the topic, marshals evidence to support his conclusion that in telling Mead their "far-fetched stories" about their sexuality, partly as a prank, adolescent Samoan girls had been joking and never thought they would be taken seriously. The hoaxing of Mead was virtually inevitable, Freeman contends, given, among other things, the false conceptions Mead and her mentors began with combined with the joking behavior of Samoans when interrogated about sexual behavior. Freeman does not question Mead's professional integrity; she was totally open in sharing her documentation and field notes and in other ways showed regard for the values of science and scholarship. But he says she was hoaxed. As for larger issues, he says the time is "conspicuously at hand for an anthropological paradigm that gives full recognition to the radical importance of both cultural and biological variables, and of their past and ongoing interactions." Freeman's evaluations of Mead's fieldwork and the ensuing controversy have been the subject of one SKEPTICAL INQUIRER column favorable to his viewpoint (Martin Gardner, Winter 1993) and two recent articles critical of it (November/December 1998). Freeman's own response to those critiques appears in this issue (Follow-up section, p. 60).

—Kendrick Frazier

ARTICLES OF NOTE

Allen, Steve. "That's Entertainment?" *The Wall Street Journal*, November 13, 1998. In an editorial column, the veteran entertainer and polymath laments the decline of his profession. "We live in an environment bombarded . . . with messages from films, television, radio, recordings, and other modes of mass communication. . . . to act in ways that have traditionally been the province of the libertine, thuggish, coarse, and depraved."

Barker, Jason. "Youth-Oriented TV and the Occult: What Are Youth Watching?" *The Watchman Expositor*, 15(6): 7–10, 1998. While blending the occult with the mass media is not a new trend, what is new, says this article, is the marketing of occultic entertainment and practices directly at young people, mainly through television.

Butts, Carter. "A Bayesian Model of Panic in Belief." *Computational and Mathematical Organization Theory*, 4(4), 1998. One common principle in the study of belief is what has been called the "consensual validation of reality": the idea that persons in highly inbred social networks alter their beliefs about the external world by repeated interaction with each other rather than by direct observation. This notion accounts for phenomena such as panics, in which a substantial number of people in a population suddenly converge to (typically unsubstantiated) beliefs. In this paper, the author uses a Bayesian conditional probability model to explore the conditions necessary for such outcomes. He also documents alternative results and offers suggestions for use of the Bayesian model in further experimental research.

Kevles, Daniel J. "Scientific Fraud and Misconduct in American Political Culture: Reflections on the Baltimore Case." *Engineering and Science* (California Institute of Technology), 61(3): 10–19, 1998. The author of a newly published book about the Baltimore case reviews and reflects on its lessons. The defendant in this widely publicized ten-year-long case about a serious accusation of academic fraud, Theresa Imanishi-Kari, was exonerated of all charges in 1996, and her mentor, David Baltimore, who had been forced to resign the presidency of Rockefeller University for having defended her, is now recognized for the courage he showed—and the costs he bore—in doing so, Kevles says.

Kondro, Wayne. "Planned Chiropractic Merger Riles Faculty." *Science* 283:1099, Feb. 19, 1999. News report on controversy at York University in Toronto over a plan to approve an affiliation with the Canadian Memorial Chiropractic College and to offer an undergraduate degree in chiropractic. Faculty oppose it as a bad influence on York's academic reputation, but York's associate vice president for research says it will strengthen the university through greater diversity, an argument critics don't buy. "It's irresponsible of York to do this," says one.

Lilienfeld, Scott. "Pseudoscience in Contemporary Clinical Psychology: What Is It and What We Can Do about It" *The Clinical Psychologist*, 51(4): 3–9, Fall 1998. A major review of pseudoscience with particular respect to clinical psychology by an academic researcher who has been honored for his early career contributions to clinical psychology by the American Psychological Association—in fact this is his awards-acceptance talk. "As clinical psychologists in turn-of-the-century America, we are confronted with the specter of pseudoscience in many guises," says Lilienfeld. Facilitated communication, inadequately validated assessment instruments, herbal remedies for depression, subliminal self-help tapes, excesses in self-help books, and suggestive techniques to supposedly unearth memories of child abuse and "alter" personalities are just a partial list of subjects that are often vocally supported without sufficient empirical justification, he says. "The bone I am picking is not primarily with the validity of the claims I've discussed, as some of these claims . . . have yet to be subjected to adequate tests. . . . Instead, the bone I am picking is with the ways in which these claims have been marketed and promoted." He says psychologists have "done little to assist the public with distinguishing those practices within popular psychology that are scientific from those that are not."

Nussbaum, Emily. "Out There" *Lingua Franca*, December/January 1999, pp. 9–10. Essay stimulated by Martin Gardner's recent attack in the SKEPTICAL INQUIRER on the Temple University Center for Frontier Sciences' *Frontier Perspectives*. "Valuable forum? . . . Or just an academic rubber stamp for snake oil?" the author asks. Perhaps a little of both. "It's certainly not all pseudoscience," the author quotes eccentric member and Nobelist Brian Josephson, in an at best lukewarm comment. Essay concludes that while criticizing the journal's oddball contents may perhaps miss the point ("ideas so far out" are not likely to even find good peer reviewers), "many of the articles feature dense, imprecise language that renders the ideas they present so vague that they're essentially irrefutable. Others present absurd notions as factual. . . ."

—Kendrick Frazier

Calling the Kettle Black

Review of Fox Television's 'World's Greatest Hoaxes: Secrets Finally Revealed'

BENJAMIN RADFORD

On Monday, December 28, 1998, the Fox network broadcast "World's Greatest Hoaxes: Secrets Finally Revealed," part of a series of sensationalistic exposés. The Fox network is, of course, infamous for its high-rating but lowbrow specials and series programming hawking every manner of paranormal and pseudoscientific claim.

It is refreshing, then, to see Fox feature a skeptical take on paranormal subjects that the Committee for the Scientific Investigation of Claims of the Paranormal have been addressing for decades. The special was narrated by Lance Henrickson, who himself has appeared in many paranormal productions such as the film *Omen 2: Damien* and as a psychic detective in the television series *Millennium.*

The usual Fox staples of hyperbole, contradicting assertions, and flat-out incorrect statements were all present. For example, in the first five minutes, the claim was made that the 1938 "War of the Worlds" panic was the result of a hoax. Orson Welles's most famous broadcast was not a hoax at all; it was indeed a panic followed by mass hysteria, but there was no intent to deceive [see "The Martian Panic Sixty Years Later," SKEPTICAL INQUIRER 22(6), November/December 1998].

The special began with footage of alleged Bigfoot sightings. The first was the famous 1967 Patterson-Gimlin film (see also "Bigfoot's Screen Test," this issue), followed by two additional, even more highly suspect videos allegedly of other Bigfoot-type creatures. Later segments featured photos taken at Loch Ness in Scotland; UFO footage filmed by cult leader Billy Meier at his Swiss ranch; and of course the much-hyped "Alien Autopsy" segment (supposedly from the Roswell, New Mexico saucer crash) broadcast in 1995.

It takes brass, and a lot of it, for Fox to loudly tout the "Alien Autopsy" as a hoax when Fox itself was instrumental in feeding the fraud to the American public in the first place. Fox's role in promoting the faked footage on its special "Alien Autopsy: Fact or Fiction?" on August 28 and September 4, 1995, was conveniently and repeatedly glossed over [see SKEPTICAL INQUIRER 19(6), November/December 1995].

Fox returned to its roots with two faked segments, one depicting a lake monster and the other a scene showing UFOs flying over a city and beach. They were broadcast, the narrator said, to show how convincing faked video footage can be. The point might have been more persuasive, however, had they asked a few teenagers on a limited budget to create the hoaxes. I don't think anyone was surprised that the multi-million dollar Fox network could create (or commission) such "impressive" fakes.

CSICOP was nowhere to be seen, but interviewees did include skeptic Kal Korff, who spoke about the Billy Meier photographs and also commented on the Patterson-Gimlin film. Korff's book, *Spaceships of the Pleiades: The Billy Meier Story,* was reviewed in the March/April 1996 issue of SKEPTICAL INQUIRER. A special effects consultant for the film *Jurassic Park* was also on hand to discuss how videotape and film can be faked using computers and various techniques.

The program left its viewers with the impression that much of what was presented was newly discovered and examined by the vanguards of truth, Fox Broadcasting. Yet SKEPTICAL INQUIRER readers got stories on the hoaxes years or even decades earlier. The famous 1934 "surgeon's photograph" of a head and neck in Loch Ness was reported to be a hoax in 1994 [*SI,* 18(4), Summer 1994]; some of the other "Nessie" photos shown in the Fox special were examined and questioned in this magazine fifteen years ago [*SI,* 9(2), Winter 1984–1985]. And claims that Billy Meier's UFO photographs were hoaxes also first appeared in SKEPTICAL INQUIRER nearly twenty years ago [see *SI,* 4(4), Summer 1980]. As skeptical as

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the Fox special was, the network was a little late to the table.

Despite several flaws, the broadcast was generally well done, and the investigation of the Patterson-Gimlin Bigfoot film, though cursory, was the best I'd seen. They also tracked down one of the actors in a forerunner film to the "Alien Autopsy" footage, who detailed how and where the scenes were filmed.

On balance, the Fox special probably helped skeptics much more than it hurt them. Although it was not of the same caliber as a special that appeared several months earlier on scams (narrated by Judd Nelson), it was nonetheless a valuable teaching tool for the public. What a shame that skeptical subjects must be packaged like sensational paranormal fare to gain an audience of millions. □

SCIENCE BEST SELLERS

Top Ten Best Sellers in **Oxford, U.K.**

1 ***Consilience***
Edward O. Wilson;
Little, Brown

2 ***Impossibility***
John Barrow;
Oxford University Press

3 ***Questioning the Millennium***
Stephen J. Gould;
Harmony

4 ***Once Upon a Number***
John Allen Paulos;
Perseus

5 ***The Language of Mathematics***
Keith Devlin;
W. H. Freeman

6 ***Einstein's Miraculous Year***
John Stachel;
Princeton University Press

7 ***The Human Brain***
Susan Greenfield;
Basic Books

8 ***Unweaving the Rainbow***
Richard Dawkins;
Allen Lane

9 ***The Symbolic Species***
Terrence Deacon;
Penguin

10 ***Geons, Black Holes, and Quantum Foam***
John Archibald Wheeler;
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The Reality of Reality

ROBERT STANTON

Although the conflict between objectivity and relativity is old, it's not hopeless. There is a way of defining the conflict that can win some converts to the cause of objectivity.

Several articles in the SKEPTICAL INQUIRER have discussed a view currently popular in our universities, claiming that every value judgment or assertion that one statement is more objective or true than another (such as that science provides our most reliable account of the universe) is merely a subjective expression of personal bias.[1] This view is usually attributed to deconstructionism, postmodernism, feminism, or some other recent movement. It is older than these.

I taught literature in universities for many years. I retired before postmodernism and its ilk became fashionable. From the beginning of my career, I heard views like those above, usually from students trying to persuade me to raise their grade on a test or critical essay. Typically they argued the view right after I said that their evidence did not support their conclusions. If I questioned the validity of their reasoning, they usually responded, "It's valid for me."

Many of them were merely trying to justify sloppy work. (Paradoxically, they justified it by denying the need for justification.) But sometimes I heard similar arguments from students whose sincerity I respected. One year I taught a small graduate seminar on Contemporary American Fiction. Each week we read a novel by a different modern author (Pynchon, Barthelme, Hawkes, Vonnegut, et al.) and one student would prime the class discussion by surveying the published criticism of the work and presenting a few questions for the class to talk about.

The discussions were fresh and fascinating because the works had not been exhaustively analyzed in print and the students were hard working, intelligent, and dedicated. But sometimes the students bogged down in an impasse they couldn't resolve. Some would still be trying to uncover the central core of the work, but others would argue that this effort was pointless because, they said, every reader experiences a work differently.

I thought about this impasse but couldn't find a way past it. Finally, in the hope that even stating the problem might help, I defined for the class what seemed to me to be the two opposing points of view. I admitted that I favored one of these, so I expected objections. To my surprise, there were none. More to my surprise (since I wasn't trying to be persuasive), I had the impression that I had won the class over to my view. Still more to my surprise, the impasses seldom occurred during the rest of the term. When similar problems occurred in other courses, I told those students about my experience in the seminar, and again, the explanation usually seemed to reduce the conflict.

I now believe that I had unwittingly defined an Hegelian synthesis of their views that both groups could live with.

We all agreed that a basic difference between the two positions was that one group believed that there are many realities, whereas the other group believed that there is only one. I called these groups "pluralists" and "monists" and described the pluralists' position like this: "The only reality we know is what we experience. Since your experience differs from mine, your reality is different from mine. Hence there are as many realities as there are people. Those multiple realities are the only reality there is." I think the pluralists agreed with this description. At least, they nodded. (Maybe they were just sleepy.)

The pluralists assumed that people who believe in only one reality—also believe that they (and only they) know exactly what reality is.

The disparity appeared in our respective notions of what the monists believed. Apparently the pluralists assumed that monists—by definition, people who believe in only one reality—must also believe that they (and only they) know exactly what reality is. To the pluralists, monism sounded like bigotry.

But the monism I described, which I and the other students seemed to share,

Robert Stanton is an associate professor of English emeritus who has taught at the University of Washington, Seattle (1956-82); Northwestern University (1953-1956); and universities in Japan, Taiwan, the Philippines, and Germany. He lives in Seattle.

was this: There is only one reality. We don't know it completely or perfectly. We can't know it completely because it's too big. Our spacecraft can never investigate every planet. We can't know it perfectly because our instruments aren't good enough. Besides, according to relativity and modern quantum physics (which most of us currently consider the most reliable descriptions), the universe is so weird that our minds cannot possibly form a clear image of it.

We can't even see our immediate environment directly. Instead, we construct a mental image of it and "see" that. Although there's an image painted on our retina by light rays, we're not like cameras. We ourselves don't see an image until our optic nerves have sent their individual little bits of data up to and through a series of centers in our brain that combine and interpret these bits with the aid of knowledge stored in our memories. Our feelings help us to construct the image, but also distort it. Our emotions and cultures make some things beautiful and important, other things ugly and trivial. We continually make mistakes.

But the very fact that we know that we make mistakes and can detect and often correct them shows that there's a reference reality out there, a "real" reality, and that we can improve our image of it. We can learn by experience and history and knowledge we get from others. None of us is always right, but some people are right more often than others (at least within their "fields"), and the rest of us would be wise to consult these people and respect and weigh their advice. We can test our knowledge with double-blind experiments and peer review. We have assembled a large and generally (though not perfectly) reliable body of information. If it is contaminated with bias, we can reduce the contamination.

I didn't say all this in the literature seminar. I didn't even explicitly connect these philosophical abstractions to the study of literature. It didn't seem necessary. Probably the students saw for themselves that one purpose of their literary analysis was to improve their image of the author's image of reality. Anyway, it was clear that the central idea of our monism was that objectivity, truth, and reality exist, even though we can't master or define or know them perfectly.

I believe that the pluralists in the seminar decided that their position was not so different from ours after all. What they called personal realities, we called mental images. What they experienced as different realities, we experienced as limitations in our images, streaks on our windows. All (!) we were adding was that out there beyond the windows exists the real thing. We'll never see it directly or wholly, just as we'll never see Mt. Rainier or Mt. Fuji from all sides at once. But we can get closer and closer.

References

1. Is science concerned with truth? Estling 22(4); Science, scientism, and anti-science in the age of prepostetism, Haack 21(6); Antiscience in academia, Gross and Levitt 19(2); The antiscience threat, Kurtz and Holton 18(3); Science: The feminists' scapegoat? Walker 18(1). □

Goring the New Age Bull

FRANK C. EDWARDS III

Speaking logically and rationally to an irrational "true believer" can be a frustrating experience. I harken back to my freshman Logic 101 class, wherein about half the students found the course almost childishly easy, and the other half were completely flummoxed.

It occurred to me in this class that *all* arguments and proofs could be reduced to proof by contradiction, *reductio ad absurdum*: a demonstration that a conclusion contrary to the correct one leads to an absurdity of such magnitude that the contrary conclusion or opinion is laughed away. Contradiction is often hilarious, which adds to the delight many people feel when an absurd claim is demolished—even those in the half of the class that don't quite grasp the mechanics and necessity of logic.

Recent academic and political forces have called into question the notion of objective truth, and whether there is, in fact, such a thing. It occurred to me one day that a world without an objective, central reality—against which truth claims could be tested for absurdity—would be a very bizarre, dangerous, and humorous place in which to live. So, as a competitive performance (or "slam") poet, I wrote about such a world, and what one's life would be like in such a place.

As perhaps in any community of artists, paranormal beliefs run high among my audiences and poetic peers, so I felt a bit edgy about performing this piece on stage. Just one try was enough to put my fears at ease. My audience howled with laughter, some of them

bent over, unable to contain themselves. A Pentecostal couple approached me after my performance and thanked me profusely. "You got us. You got *all* of us!" the husband said, smiling large. A New Age poet pal of mine confessed he used Bach flower remedies mainly for the alcohol in them.

So, I offer this poem. This piece is not in the literary poetic tradition, but rather, the *spoken* poetic tradition, a much older and much more entertaining genre. Please enjoy, but a warning: those uncomfortable with sarcasm and irony had best steer clear.

Frank C. Edwards III is a computer programmer by day and a slam poet at night. In his first appearance at the National Poetry Slam in August 1998, he ranked thirteenth out of 194 competitors. His E-mail address is frank_c_edwards@msn.com. □

Goring the New Age Bull

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On the eighth day of creation, under a full moon, I had a near-death experience in Atlantis,
While enjoying Tantric sex with Linda Goodman,
But then, my clairvoyance had forewarned me that this rapture was imminent.

I awoke that day with a bit of negativity
From my biorhythms and my lucid dreams about my therapist, Sasquatch,
Implanting false memories of child abuse by the Abominable Snowman.

I had rubbed my 2nd sight clear of the night's Dianetics,
Pushed back the Shroud of Turin and levitated into the cold fusion chamber
To expel the remnants of last evening's high-fiber yogurt enema,
When my ESP told me that the Earth was flatter than usual today.

After my bent-spoonful of homeopathic aromatherapy karma,
I was checking the graphology of the hand-channeled horoscope that my astrologist, Gaia,

Had sent to me in a chain letter,
When my chiropractor, Dr. Falwell, called me on the psychic hotline.
My tarot cards had come back positive, and one of my past lives needed psychic surgery
To remove some crop circles that weren't responding well to the Laetrile.

Any further delays, he said, and I might spontaneously combust.

So I Rolfed down the last of the Bach flower remedies and firewalked my unicorn Rainbow
To the UFO connection from Bermuda to Roswell,
Where, after being fitted with the mandatory anal probe,
I teleported into the Loch Ness Alternative Medical Center
For some Allopathic-Holographic-Numerology treatments,
Because I'm not ready to become just another co-dependent victim
Of a 12-step alien autopsy, yet.

Using facilitated communication, Dr. Tunguska explained that
His plant perception had indicated a course of magnetic therapy
Would relieve the satanic conspiracy I was suffering from.
After a period of meditation, he hypnotized me with acupressure crystals
And applied his therapeutic touch,
Successfully removing a flour tortilla with the image of the Virgin Mary
From one of my abdominal chakras.

As I regained my six senses, I caught myself speaking in tongues
About the Kirlian auras of Nostradamus's Bible Code,
But soon I was feeling fen-phen again.

They offered me a cruise home on Noah's Ark with Uri Geller,
But I declined, because Linda's waiting, it's a beautiful full moon,
My Gemini is rising, and the pigs might fly tonight, too.

Freeman Responds about Mead-Freeman Controversy

In a special section "The Mead-Freeman Controversy: A Fresh Look," the November/December 1998 SKEPTICAL INQUIRER carried two articles criticizing anthropologist Derek Freeman's arguments about Margaret Mead's Samoan research and her views on evolution. They were James E. Côté, "Much Ado About Nothing: The 'Fateful Hoaxing' of Margaret Mead," and Paul Shankman, "Margaret Mead, Derek Freeman, and the Issue of Evolution." In this issue we publish Freeman's response to those two articles, followed by brief replies from Côté and Shankman.

On the Ethics of Skeptical Inquiry

Derek Freeman

To be scientifically acceptable, skeptical inquiry must honestly and conscientiously take into account all of the relevant evidence. My meticulously researched book *The Fateful Hoaxing of Margaret Mead: A Historical Analysis of Her Samoan Research* was published by Westview Press in November 1998. Yet, astonishingly, the November/December 1998 issue of SKEPTICAL INQUIRER gives great prominence to two uninformed and scurrilous articles written without knowledge of the extensive evidence that has been published *for the first time* in this book of mine. In asserting, on the utterly untrustworthy footing of these two articles, that "Freeman's conclusions are deeply flawed," the editor of the SKEPTICAL INQUIRER has violated the fundamental principal on which all skeptical inquiry, if it is to be scientifically acceptable, has to be based: the principle that all of the relevant evidence has to be honestly and conscientiously taken into account.

That this violation of ethics of skeptical inquiry has occurred in a magazine published by the Committee for the Scientific Investigation of Claims of the Paranormal is greatly surprising, but, alas, frighteningly true.

Shankman claims to have demonstrated that "on the fundamental issues of biology, culture and evolution, Mead and Freeman are in substantial agreement."

This is a quite unhistorical and entirely false claim.

In my book I advocate the adoption of an interactionist anthropological paradigm that "takes note of the tested findings of evolutionary biology and evolutionary psychology, and on this basis studies the social and cultural adaptations of the human species."

This is a stance that was *never* advocated by Margaret Mead *at any time in her anthropological career.* Evolutionary psychology has only emerged as a distinct discipline since her death in 1978.

After her researches in Samoa, Mead reached two demonstrably false conclusions. One was the totally unevolutionary conclusion that "human nature" is "the rawest, most undifferentiated of raw material." The other concerned what Mead, following Boas, called "the phenomenon of social pressure and its absolute determination in shaping the individuals within its bounds."

These are the principal assumptions of Boasian culturalism, and they were adhered to by Margaret Mead as long as she lived. Jean Houston (*A Mythic Life,* 1996, p. 247) reports Dr. Mead as having said to her in 1978: "I helped create the current paradigm, and I'm one of the few people who understands how it works. As long as that paradigm is working I am needed and I cannot die. I will die only when a newer paradigm comes along that I don't understand."

As the relevant historical documents show, I have, since the early 1960s, in all of my anthropological thinking, totally rejected the assumptions of Boasian culturalism. Dr. Mead died on November 15, 1978. Twenty years on, as I chronicle in my book, a new anthropological paradigm is indeed at hand.

On this crucially significant issue and in numerous other ways, Shankman has flagrantly misrepresented my anthropological views.

And to what end? Quite explicitly it is because he is intent on *ad hominem* denigration, as is clearly evident in his aspersion that I am merely "an intellectual speedbump in the way of our understanding of Samoa, the work of Margaret Mead and the state of anthropology today." Such is the critical thinking of Associate Professor Shankman.

Associate Professor Côte's principal charge against me is, that by selectively quoting from Mead's letter to Boas of March 14, 1926, I am guilty of what he calls (with idiosyncratic hyperbole) "a form of academy perjury"! If he had consulted my book he would have discovered that the text of Mead's letter to Boas of March 14, 1926 is published there *in full.*

In his assessment of the significance of Mead's letter to Boas of March 14, 1926, Côté relies on Orans's book *Not Even Wrong* (1996). In so doing Côté entirely fails to record Orans's conclusions that Mead's "profoundly unscientific" and "seriously flawed" work on Samoa is "filled with internal contradic-

tions and grandiose claims to knowledge that she could not possibly have had," and, that Mead's writings on Samoa are "so mistaken" that "she is not even wrong"! Nor does Côté mention Orans's conclusion that in making her claims about "the acceptability of premarital sex for unmarried adolescent females" Mead "knew better," and that "rather than being misled she is misleading." In other words it is Orans's view that Mead's conclusions about adolescent sexual behavior in *Coming of Age in Samoa* and elsewhere involved deliberate falsification. These crucial omissions from Côté's article are the clearest possible indication of his lack of responsible scholarship. Furthermore, with his talk of "Freeman's attempt to bully his way into intellectual history," Côté, like Shankman, is primarily intent on *ad hominem* denigration.

In her letter of February 15, 1926, to her supervisor, Franz Boas, Mead stated that for the first time in her brief stay in Manu'a she planned to conduct, during April 1926, a "special investigation" of the sexual behavior of her sample of adolescent girls.

On March 19, 1926, on her return to the United States Naval Dispensary on Ta'ú from the off-lying island of Ofu where she had written to Boas on March 14, 1926, telling him that her "problem" was "practically completed," Mead wrote to Boas once more announcing that she had decided to cut short her fieldwork by over a month. Then, supposing she had solved the problem Boas had assigned to her, she canceled her planned "special investigation" of adolescent sexual behavior, and left Ta'ú for the south of France without—most significantly—ever having made any systematic investigation of the sexual behavior of her sample of adolescent girls.

These historical facts are wholly inconsistent with Orans's view that Mead was engaged in deliberate falsification. If Margaret Mead had indeed been involved in deliberate falsification, she would never have made her Samoan papers available to public scrutiny in the Library of Congress.

In marked contrast, the historical facts fully confirm the sworn evidence of Mead's traveling companion Fa'apua'a Fa'amú that, on March 13, 1926, on the island of Ofu, Margaret Mead was hoaxed by Fa'apua'a and her friend Fofoa about the sexual mores of the Samoans. Of this Mead was totally oblivious, as is anyone who has been successfully hoaxed. It is, however, a happening that makes fully understandable Mead's letter to Boas of March 14, 1926 and all of her actions until April 16, 1926, when she finally left the island of Ta'ú, including her words in her letter of April 7: "I am leaving here with a very clear conscience." A Boasian ideologue, Margaret Mead may have been; a deliberate cheat about major anthropological issues she most certainly was not.

The detailed evidence for this (all of it based on primary sources) is contained in my book *The Fateful Hoaxing of Margaret Mead*, and I would like to invite all Fellows of the Committee for the Scientific Investigation of Claims of the Paranormal and all readers of SKEPTICAL INQUIRER, who may be interested, to consider for themselves the historical analysis contained in my book, and to then come to their own conclusions.

Derek Freeman
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No Evidence Offered Relevant to Points Raised

Derek Freeman is upset by criticisms of his "fateful hoaxing" theory, but if he had "honestly and conscientiously take[n] into account all of the relevant evidence," none of these criticisms would be necessary. Moreover, he claims that his book provides "extensive evidence published for the first time," but there is nothing new of substance in it that has not been published at least once over the past decade in his many renditions about the alleged hoaxing.

Before writing my article, I had seen an outline of a draft of his book and had read his various summaries of it. Since the outline of his book showed no appendix containing the Mead-Boas correspondence, and being in possession of the letters myself, I wrote to his publisher in March 1998 suggesting that all of them be included verbatim in an appendix (I even offered to help). When it was released, only some of these letters were included.

Although Mead's letter of March 14, 1926, is included in an appendix in Freeman's book, notably absent are seven letters spanning November 15, 1925, to April 7, 1926. These are crucial to truly understanding the progress of Mead's research. Freeman should have included all of them so that readers could evaluate all of the data upon which he is basing his claims.

Since he did include the March 14 letter, readers can see one of his many misrepresentations of Mead's research for themselves by comparing his text about the letter (pp. 141–145) with some of its actual wording (p. 231, lines 14–17). They will find in his text that he does not acknowledge Mead writing that the family did attempt to curb adolescent sexual activity, presumably because this contradicts his much-repeated "free-love" thesis that Mead was hoaxed into believing "that Samoa is a place where 'the community' does not attempt to 'curb' the sexual activity of adolescents" (p. 142).

In his rebuttal, Freeman does not offer any evidence relevant to the points I raise in my article. Instead, he claims that because of the way I cite evidence from Orans's book (and he disagrees with Orans), I am guilty of "irresponsible scholarship." First, I did not rely solely on Orans's book in assessing Mead's letters, because I have copies myself. Second, I do not have to agree with every point made in a source in order to "responsibly" cite it. And, third, Orans does not say that Mead fabricated data, but that she drew misleading conclusions from her data. In my article I also wrote that Mead made some misleading generalizations, in accord with Orans.

For the benefit of those who do not have access to the letters exchanged between Mead and Boas, I plan to publish a full account of all of them and their significance for Freeman's theory.

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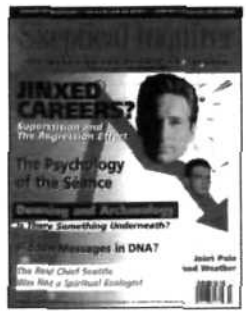

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This will show that Mead: (1) had essentially completed her research on Samoan sexual mores before the alleged hoaxing about those mores, (2) had an intimate knowledge of many of her informants (also before her alleged hoaxing), (3) completed to her satisfaction the "special investigation" of her informants' sexual behavior (and reported these results in *Coming of Age in Samoa*) (Mead, 1973, p. 285), and (4) left Samoa on a revised schedule she had worked out with Boas several months before the alleged hoaxing. Science does indeed require that all of the relevant evidence be taken into account, and I intend to make sure that this is done.

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Mead Was Not 'Unevolutionary'

In my *SI* article, I noted that Derek Freeman's style of argument often included the use of bold assertions, selective citation, omission of sources, and condemnation of his critics in the highest moral tones. His reply to my article is a textbook example of this rhetorical style. Freeman demands that we consider "all of the relevant evidence," but neglects evidence that does not fit his argument.

Thus Freeman continues to assert that Mead was "unevolutionary" and an absolute cultural determinist for her entire professional career. If so, how does Freeman explain statements in Mead's presidential address to the American Anthropological Association in 1960 in which she argued that genetics "was enormously relevant to problems absolutely central to our discipline" and urged her colleagues to take advantage of the "opportunity provided by the new upsurge of interest in the whole field of evolution, in which human evolution is one part, and cultural evolution a smaller one"? Do such statements seem in any way "unevolutionary?"

Freeman also asserts that he and Mead "never" shared similar views on evolution. Yet the published views of Mead on the issues of evolution, interactionism, primate and mammalian ancestry, and human maturation are very similar to those of Freeman. Of course, Mead was not an evolutionary biologist or an evolutionary psychologist, but does this make her views "unevolutionary?" Rather than reviewing Mead's published statements on evolution over the course of her long career, Freeman relies on questionable appeals to authority and moral indignation. This style of argument is not persuasive, and it is one reason that Freeman's credibility among anthropologists has eroded. Accurate representation is a precondition of responsible interpretation.

Freeman's new book continues his unfortunate misrepresentation of Mead, but that is a matter for future review. For the present, I invite readers to reread my article and check the sources cited so that they may decide for themselves. I invite Derek Freeman to do the same. In the meantime, I stand behind the arguments and conclusions in my article.

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Evaluating the Munich Dowsing Experiments

I write to commend the comprehensive and valuable work that J. T. Enright ("Testing Dowsing: The Failure of the Munich Experiments," January/February 1999) has accomplished in providing a skeptical re-evaluation of the results of extensive testing of dowsing capabilities. His detailed exposition effectively disposes of claims for success in the data of Betz and his colleagues as evaluated.

Having dispatched this particular empirical effort Enright is, however, doubtful whether his observations will have any fundamental impact on future claims for dowsing, and in that doubt I join him. As Enright so lucidly notes, the sequential dismissal of discrete experimental procedures tends largely to lead toward argument over *methodological* concerns which, almost unavoidably, will vary in their detail from procedure to procedure. Rather, what is needed is a more thorough examination of putative cause.

In the brief evaluation that I undertook (*SI*, "Dowsing the Rollrights" January/February 1998) I found numerous supposed causes ranging from magnetism, through "ley" energy, to "some form of electrical force." More have been identified by Vogt and Hyman (*Water Witching USA*, 1979), while Enright also refers to cryptic "earthrays" as the purported source of influence advocated in the study which he examined. Each of these "causes" is effectively "underspecified." That is, they provide insufficient level of articulation as to the causal sequence such that *any* experimental evaluation could either support or disconfirm the claims that are made.

In my own observation I suggested that it was the interaction between the dowser, the dowsing tool used, and the environment which resulted in the behavior observed. While this may be difficult to establish as an *exclusive* cause, the advantage is that this proposition can be fully articulated and shown at least to be a sufficient explanation. It calls upon no esoteric "forces" but simply the known principles of physics, physiology, and psychology to account for phenomena observed in the field.

When bias, expectation, and like contaminants are removed or largely mitigated (as Betz and his colleagues seemed to have achieved) results appear to differ little from chance—a result fully in agreement with this explanation of self as unrecognized cause. Until such experimental evaluations can be used to confront fully developed competing theories with disparate behavioral predictions, the continued piecemeal evaluation of dowsing capability will provide no satisfactory result for either proponent or skeptic.

Since a standard "theory" using known principles is already extant (see Hancock 1998; Vogt and Hyman 1979), the onus is on those who advocate "earthrays," "ley energy," "electrical force," and similar esoterica to provide a comprehensive alternate theory in order that extensive efforts (such as those undertaken by Betz and his co-workers) result in effective progress rather than polemical antagonism.

P.A. Hancock
Director, Human Factors
Research Laboratory
University of Minnesota
Minneapolis, Minn.

Professor Enright's article certainly makes it appear that the claim that the massive Munich experiment proved the efficacy of dowsing is absurdly optimistic. However, I thought it would be worth running a control experiment. I took alternate pairs of digits of pi and used them to represent the pipe positions and the dowsers' estimates in decimeters. Using the first 20,000 digits of pi allowed each of 500 phantom dowsers to make ten trials. Computing the standard deviation of their miss distances led to the conclusion that number 500 (oddly enough) was the best dowser. His (or her) standard deviation was 179 cm, somewhat better than Enright's "Moderate Skill" category.

Measuring from Enright's Figure 2b it seems that the best "real" dowser did no better than a standard deviation of 393 cm. My control experiment suggests that, even in the total absence of dowsing ability, a test of 500 dowsers should have done much better than the Munich experiment. Has psi-missing cropped up yet again?

Tom Napier
North Wales, Pa.

I appreciated J. T. Enright's article about the Munich dowsing experiments, since I come in contact with far more believers in dowsing than believers in alien abductions or spontaneous human combustion. Indeed, a January 7 issue of one of our local (York, Pennsylvania) newspapers carried yet another story about a successful local dowser. It's remarkable how a newspaper can, on one page, run an editorial or article about the shortcomings of today's education systems, and on another page promote anti-education, lending credence to H.L. Mencken's observation that "a newspaper is a device for making the ignorant more ignorant and the crazy crazier."

When I first encountered believers in my work as a hydrogeologist, I thought they were just a few holdover, superstitious hillbillies. With time, however, I learned they were ubiquitous and under no threat of extinction. When they argue the efficacy of dowsing, they frequently propose scientific-sounding explanations and suggest tests to prove their belief (usually indicating naiveté regarding physical forces and testing protocols). Do newspaper accounts apply any critical thinking to these stories?

Interestingly, the newspaper article related how the dowser, contrary to the practice of geologists, first examines aerial photographs to find water-bearing fracture zones; evidently the reporter, ignorant of the subject he was reporting on, did not realize that this is standard practice for geologists seeking water in this kind of terrain!

Mark T. Duigon
Stewartstown, Pa.

The analysis of the water dowsing experiments by J. T. Enright seems to me to be the best scientific research I have yet seen on this controversial project. Too bad the believers working with the experiments couldn't face the negative results.

In our region of New Mexico, many ranchers and farmers are firm believers in the abilities of dowsers. I myself, as an archaeologist, am more interested in those who dowse for the location of hidden sites. Amateurs in particular believe in their powers. It seems almost impossible to me to set up an accurate test of their supposed abilities. I believe that such abilities, to the extent displayed in real situations and not in artificial experiments, reside not in "earth lines" or any other such things but in their previous experience with water or with sites.

An experienced and well-trained archaeologist can often look at the surface evidence at a completely covered archaeological site and find clues to what lies beneath. I have watched several "artifact dowsers" pull their forked stick down and claim that under this spot lie some Indian artifacts or even a buried pueblo. In many instances they prove their point. It is my belief that

any seasoned professional archaeologist could do the same thing without a dowsing rod. It is the open eye and the brain, not the forked stick, that determines failure or success in seeking archaeological objects hidden under the surface.

Walking over an Indian site that is completely subsurface I can usually determine what areas would be the most successful for excavation. A slight dip in the surface of an archaeological location might suggest a subsurface open fire pit or if larger, the interior of a walled room located below the surface. A change in vegetation along a narrow strip of some length could be the result of a hidden wall only a foot or two below the surface. A damp spot could suggest that beneath the surface there might exist a sluggish spring, perhaps once the Indians' source of water. If the surface covers the ruins of a shallow buried pueblo, the outline of the pueblo buildings, while little evidence is visible to the layman, can often be determined by an experienced archaeologist studying the surface shape.

I believe that a seasoned archaeologist could speculate the size, shape, and features of the subsurface ruin far better than a professed site dowser could. All these observable criteria on the surface, however, are usually not boldly obvious to the average dowser but must be observed by someone with considerable experience to study the surface and suggest what lies below it. However, some dowsers, through experience, may have developed a thought pattern regarding what may lie under the surface. If so, this individual using a dowsing rod might subconsciously respond to specific surface criteria, and without conscious intent, lower his dowsing rod and believe that his forked stick alone has made this discovery.

George A. Agogino
Portales, N.M.

The article "Testing Dowsing" by J. T. Enright merits, I believe, some criticism of the author's methodology and the conclusions that can be drawn from his analysis. His analysis does show that most likely the group of forty-three claimed dowsers have no ability, common to all claimants, to locate a small pipe carrying water. In no way does it disprove what Enright states in the first few lines of his article, that: ". . . certain skilled individuals can discover underground water. . . ."

An individual skill is just that, an individual skill. The true existence of an individual skill cannot be determined by lumping that individual's score with other scores, even though it is suspected that they also possess that skill and to precisely the same degree. But that was not known in advance; in fact, the opposite was determined in the elimination tests. Moreover, each individual's score was not the same from test to test.

The author admits that this lumping might be objected to but claims it is justified on the basis of the dowsers' claims to have the ability. That lumping then proves that most of the dowsers had no such ability, which, ipso facto, proves that there was no basis for lumping the data.

I feel certain that if the author were searching for, say, auditorially gifted people who could hear sounds beyond the normally quoted upper frequency of 20,000 cps, he would not take the combined results of tests of a group of individuals as evidence that none existed. Auditory sensitivity is an individual attribute and an individual's ability cannot be determined on the basis of tests of other individuals.

Donald F. Weitzel
Winnetka, Calif.

Fashionable Ideas a Danger

Please include more excellent articles like Susan Haack's "A Fallibilist Among the Cynics" (January/February 1999). I believe that these currently fashionable ideas in philosophy give a false intellectual endorsement to the pseudoscientific beliefs your magazine exposes. In that sense, I believe they are far more dangerous than the individual cases of pseudoscientific belief, since they can be used to give an intellectual veneer to *any* idea, regardless of its scientific or moral merit.

Robert D. Fowler
Vidalia, La.
rdfowler@iamerica.net

Fears of the Apocalypse

I certainly agree with Dr. Kurtz when he says that the most frightening prognostications are the scenarios of population and the environment ("Fears of the Apocalypse," January/February 1999). But in attempting to include predictions of population numbers and predictions of environmental devastation in his thesis he commits his own

"Escape from Reason." I think that he confuses two types of predictions, absolute and conditional. As an illustration, I will make two predictions of my own:

(1) Absolute. The number of humans on Earth will soon reach six billion.

(2) Conditional. If the present rate of population continues, the world population will double in forty years.

I will defend the second prediction first. This is easy because it is just mathematics. My condition is that the present rate of increase continues. Any quantity that increases at a constant rate with respect to time is an exponential function of time. The parameters are determined and I simply plug in the time representing forty years hence and obtain my result. Now let us suppose it is 2039 and the population has not doubled.

Will Dr. Kurtz say that my prediction that I made in 1999 was frightening and irresponsible? Should my prediction be included in a list of doomsday predictions made by religious cultists and movie producers? This can happen only if the mistake is made of neglecting the *condition* and misrepresenting my prediction as being *absolute*.

I sincerely hope that world population never doubles. I do not think that our planet can sustain such numbers without enormous human suffering. As for the first prediction, anyone can check for himself or herself. I suggest **www.zpg.org**, **www.npg.org** or **www.popcouncil.org**, for example, as places where the numbers can be monitored as you hold my feet to the fire on this one.

In the 1960s environmental scientists made the grave prediction that American raptors would be wiped out by the effects of DDT. There is an implied condition there. That is *if we do not ban the production and use of DDT.*

We *did* ban DDT and since that time,

the bald eagle and peregrine falcon have made a tremendous comeback. Those scientists suffered much criticism in the 1960s from selfish interests. Should we criticize them again today and say that their predictions were frightening and wrong because there are plenty of healthy raptors? I suggest that you try to make a parallel with the Lake Erie story, Dr. Kurtz, and then we will talk about global warming and the ozone layer.

Sam W. Young
Opelika, Ala.

End Time Prophecies

In the article "The Bible and the Prophets of Doom" (January/February 1999), I was very surprised to find that you did not quote the words of Jesus Christ in the Gospel of *Matthew, chapter 24, which include the following:* "No one knows about that day or hour, not even the angels in heaven, nor the Son, but only the Father . . . the Son of Man will come at an hour when you do not expect him." This alone causes me to doubt any follower of Christ who claims to know the specific date for the end of time.

Larry Harrington
Sherwood, Ore.

Leinster's 'Logic' Internet

While H. G. Wells was scoring high points in his anticipation of the Internet in his 1938 book *World Brain* ("Notes of a Fringe Watcher," January/February 1999), an even more remarkable forecast was made by Will F. Jenkins (Murray Leinster) in his 1946 short story, "A Logic Named Joe." What Jenkins called "logics" were what we today would call a PC: small, desk-top computer terminals resembling "a vision receiver . . . only it's got *keys instead of dials and you punch the keys* for what you wanna get." Every home has one. Logics are in turn hooked into an enormous mainframe computer called "the tank." Do you want to listen to a particular TV station? Just punch in the station's call letters and the broadcast appears on your screen. Want to talk with a friend? Just type in "'Sally Hancock's Phone' an' the screen blinks an' splutters an' you're hooked up with the logic in her house." Likewise, the logic can be used to obtain weather forecasts, racing results, historical information, stock market reports . . . literally anything. Your logic will do math for you, keep your books, act as consultin' chemist, physicist, astronomer, an' tealeaf reader, with an 'Advice to Lovelorn' thrown in." Businesses have depended on logics for their computing for years and the tank distributes 94 percent of all telecasts. It handles airline schedules, employment opportunities, and news. Local "tanks" are hooked up with all of the other tanks around the country in a single enormous network. The story's plot centers around some of the dangers that evolve from the indiscriminate availability of information—yet, as the narrator points out, the network cannot be shut down: "Logics changed civilization. Logics *are* civilization! If we shut off the logics, we go back to the kind of civilization we have forgotten how to run!"

Given that Jenkins had only another decade's worth of technological advancement to draw upon than Wells did (the first electronic digital computer had been constructed only three years earlier and it was not exactly a desktop model), his description of what is essentially the Internet—and the ubiquity of the PC—is astonishingly detailed and accurate.

Ron Miller
King George, Va.

Yourdon and Y2K

Robert Sheaffer's column "Apocalypse Soon" (January/February 1999) discusses Ed Yourdon at some length. But it does not mention one aspect of his past that might be relevant to the discussion. Ed Yourdon published *Decline and Fall of the American Programmer* in 1992, a book that predicted the end of most American programming jobs in the very near future. In 1996 he wrote *Rise and Resurrection of the American Programmer,* an almost point-by-point refutation of *Decline and Fall.* Given this history, I will not be surprised to see *How We Solved the Year 2000 Crisis* from Mr. Yourdon in 2001.

Charles Shapiro
Avondale Estates, Ga.

How to Test Alternative Drugs?

The conclusion of Marcia Angell and Jerome P. Kassirer in "Alternative Medicine: The Risks of Untested and Unregulated Remedies" (January/February 1999) that "alternative treatments should be subjected to scientific testing" is correct. But everyone already agrees with it. The real problem is: How can we get that testing done?

The patent system has given us many good, new medicines and medical devices. The economic rewards to our pharmaceutical companies are great enough to pay for the discovery and extensive scientific testing of new medicines to prove their efficacy and safety. And most doctors and all HMOs prescribe only these patented drugs, because of the lawyers watching them and waiting.

However, relying solely on the patent system for money has eliminated the testing of three major sources of medicines. They are medicines that have been in general use (folk medicines), medicines that were tested and patented in other countries but not in the U.S., and medicines whose U.S. patents have expired. Folk medicines, foreign medicines, and expired medicines cannot be rigorously tested by the private sector, because no patents can be obtained to protect the income needed to pay for this testing.

New federal laws are needed to: (1) Provide government funding of university testing on the scale of pharmaceutical testing to evaluate unpatentable drugs in a double-blind way and to pass them by the FDA; (2) Provide monetary awards and recognition for laboratories and individuals that produce outstanding results; (3) Provide government funding of testing and tracking for and publication of adverse reactions for these drugs; (4) Require that manufacturers print these warnings with their products; and (5) Require that the FDA test to make sure that the bottles contain what they are labeled to contain.

Elliott Frauenglass
Newington, Conn.

I am getting tired of reading the misinformation and many unfounded attacks on so-called alternative medicine.

Yes, some of it is pure bunk and some is not. It takes an honest skeptic to tell one from the other. Your authors blacken everything even remotely under the shield of "alternative medicine" as bunk unless it is within the orthodox medical establishment. Since when has the skeptical community abdicated reason and scientific thought for diatribes?

Your January/February 1999 issue carries an article by Drs. Angell and Kassirer—the same authors who wrote an article for the September 17, 1998, *New England Journal of Medicine.*

I happen to personally know about the drug PC-SPES became I am on it and the information given by your authors is mis-

leading and false. Here are your authors' words from the article:

"PC-SPES has substantial estrogenic activity." True. What the authors did not mention is that it also has properties that lower testosterone levels and thus slow the rate of cancer growth in the prostate. According to Dr. Chen, developer of PC-SPES, it has cancer-controlling properties that go far beyond its estrogenic activity.

"This substance is promoted as bolstering the immune system in patients with prostate cancer." Yeah? Where is it promoted as such? I have not seen any such statement. The bottle itself says only that it is "Breakthrough Herbal Formula" and it is a "Dietary Supplement." The instructions (dosage) are on the bottle along with the ingredients "Chrysanthemum, Isatis, Licorice, Lucid ganoderma, Pseudo-ginseng, Rubescens, Saw Palmetto, Scute" and the name of the manufacturer. My doctors, Dr Julian Whitaker, M.D.—yes, he really is a medical doctor, and Dr. Martin Milner N.D.—shudder—an "infamous" naturopathic doctor, have never once told me it was to "boost my immune system." Although it probably does that job as well.

"Many men taking PC-SPES have thus received varying amounts of hormonal treatment without knowing it." They seem to think "we" are idiots, and I resent that. I don't know about "many men" and I don't think your authors know either. Have they made a survey of "many men" or are they just making a blanket statement—a guess? A guess is my supposition. In my specific case, I do know about the estrogenic activity and about hormonal blockade as well. Eulexin and flutamide are the drugs usually given for hormonal blockade. PC-SPES is an herbal alternative. With standard hormonal treatment many patients become resistant and unresponsive and PSA levels begin to rise again. PC-SPES in its ten years of testing shows that it can replace traditional hormonal blockade without that detriment. Do your authors know what they are talking about? I doubt it when it comes to "many men."

"The only legal requirement in the sale of such products is that they not be promoted as preventing or treating disease." (Well, since that's the legal requirement then it would be illegal for them to do that now wouldn't it.) "To comply with that stipulation, their labeling has risen to an art form of doublespeak . . . the medical uses for which they are sold are merely insinuations." What choice do they have? You complain because they don't flat come out and state what the substance is for? If they do, then you arrest them and confiscate the product. That is gross deception and entrapment. . . .

Yes, as I've said, a lot of it is bunk and should be discredited, but you throw out the baby with the bath water.

Ralph S. Blois
Woodburn, Ore.

"Alternative Medicine: The Risks of Untested and Unregulated Remedies" can hardly be said to have been written by unbiased individuals. Medical doctors have been trained from medical school to believe that if a medicinal candidate is not a patented chemical, and tested for decades, it cannot be effective. Further evidence of Angell and Kassirer's bias is shown when they infer that if "herbal medicine" is worthy of being used successfully, then why is it not tested by the FDA? Maybe they are not aware, but it can cost one to three hundred million dollars and take many years for the FDA to approve a new drug. Because natural food supplements cannot be patented, companies that produce them cannot afford to undergo FDA approval.

One of the Angell and Kassirer's statements in the article, "What sets alternative medicine apart, in our view, is that it has not been tested and its advocates largely deny the need for such testing." Just where is their evidence for this? It may be true of a few obvious quacks, but the mainstream supplement advocates seem to me to welcome testing if it could be done at reasonable costs.

Another statement Angell and Kassirer make sounds as if it came straight from a pharmaceutical lobbyist: "Alternative treatments should be subjected to scientific testing no less rigorous than that required from conventional treatments." It should be obvious to them that if this were required at the present average cost, there would be no testing, and alternative treatments would be banned by the FDA. This is what drug companies have been desperately seeking all along. However, if this is accomplished, the United States may lose any chance of discovering natural, inexpensive, effective medical treatments. . . .

William H. Holliday
Richmond, Va.

I generally enjoy and largely agree with the SKEPTICAL INQUIRER. I believe that overall you are performing a tremendous service for mankind. However, although I have no axe to grind one way or another on the issue, I must express my profound disappointment in your article on alternative medicine. While the authors' overall conclusions may well be correct, there is no way of determining that by the article, as it relies largely on the same brainwashing techniques that the SKEPTICAL INQUIRER and the article itself denounce.

The authors, being the editor and executive editor of *The New England Journal of Medicine*, clearly have a very strong self-interest in supporting the mainstream medical establishment and in discouraging alternatives. That in itself should solicit a healthy dose of skepticism.

The authors state: "No longer do we have to rely on trial and error and anecdotes." They then proceed to present a number of anecdotes and little else to point out the risks of alternative medicine. But of course they have now become "examples" rather than anecdotes. "These are without doubt simply examples of what will be a rapidly growing problem." A statement that we "without doubt" should simply accept on faith. . . .

Lindell Cline
Buena Vista, Calif.

I recently had an experience that may shed some light on the continuing controversy regarding alternative medicine.

I am seventy-two years old and have been taking medication to control my cholesterol level for the last seven years. In February 1998, I found that I was dizzy all the time and had trouble walking. Naturally I sought medical help with this problem. To make a long story short, I ultimately saw four doctors and underwent extensive testing and two heart operations but the problem still persisted. In fact, I believe that two of these doctors did not believe me when I described my symptoms.

In September 1998, I received feedback from people who had had similar experiences. I stopped taking the medicine (Mevacor) and noticed an immediate improvement and at present am 98 percent back to normal. A review of reference books describing prescription drug reactions in the local library revealed that my symptoms were, indeed, a side effect of the drug! Frankly, I am appalled at the cavalier treatment that I received. A complaint to the local medical society has gone unanswered as has a similar complaint to the local medical school. (I advised the doctors involved by copies of these letters.) Now my point is that this type of cavalier treatment is what probably drives many people to alternative

medicine. I should note that I have no intention of pursuing alternative medical procedures.

I hope that the medical community is listening!

Robert L. Tripician
Virginia Beach, Va.

More Letters on the Mead Freeman Controversy

When I first had problems with a Samoan student (in New Zealand), a colleague with some years of experience teaching in Samoa offered advice:

> Never ask a direct question; a Samoan teenager who is shy and anxious will blurt out an answer that may not be true. But *then honour demands that the answer be* defended as truth at all cost. Never allow them to answer "yes" or "no" as the chances of a correct answer are little better than 50 percent. Never even ask a student's name, instead try, "I may not say your name properly. Please save my embarrassment by saying it properly for me." Over many years I found this advice invaluable.

The SKEPTICAL INQUIRER, November/December 1998 contains articles by Shankman and Côté on the Mead/Freeman controversy. Côté points out that Freeman has gone directly to the media and public opinion. In physics this would be a clear token of pseudoscience, but do these articles indicate their discipline should be equated with the physical sciences? Both evade the main question that occurs to a nonanthropologist: Did Mead provide an accurate picture of Samoan society? Freeman's *Margaret Mead and Samoa* takes each piece of Mead's research and shows that *nearly all give a picture of Samoan life* almost exactly the opposite of the truth. Côté states, "Serious scholars had been aware for years of the limitations of Mead's book," and "[*Coming of Age in Samoa*] is not a model for professional scholarship today." But how could Mead have got nearly everything about Samoa so wrong?

The charges by Côté of "long standing anti-Americanism among some Australians" or Freeman seen as a "brave Aussie standing up to bullying Yanks" are simply bizarre. It is pertinent, however, to consider the relative standing of Mead and Freeman in *Samoan society. They felt betrayed by* Mead; Freeman is held in the highest regard.

Côté claims that Freeman's book "has been dismissed in numerous scholarly examinations." He does not tell us that this book was critically examined before publication by Samoan scholars. Samoans were convinced that Freeman and not Mead gave an accurate picture of their society. Yet Côté has the gall to accuse Freeman of selective use of evidence.

Interested skeptics should watch West Samoa play in the Rugby World Cup this Northern summer (TV or video). No knowledge of the game will be required to decide whether Mead was correct in claiming that Samoa was a passionless society, lacking in competitive spirit.

Jim Ring
Nelson, New Zealand

James Côte strives to convince the reader that "Derek Freeman's polemical arguments about Margaret Mead's Samoan research fail to stand up to tests of evidence. . ." (p. 29). The article focuses on a single, narrow question: Was Mead the victim of a "fateful hoax"? Côté relies heavily on Martin Orans's (1996) book to make his case. Orans indeed concludes that Freeman is mistaken on that point. But Côté's narrow focus seriously misrepresents Orans's message. *His title, Not Even Wrong,* gives Orans's judgment of Mead's Samoan research: Because Mead failed to follow the standard scientific rules of evidence,

> Her work may properly be damned with the harshest scientific criticism of all, that it is "not even wrong." . . . In short, if Mead is taken as having done science, she did a bad job of it, and the procedures she followed would have produced unreliable results whatever her hunches. (p. 155)

Orans says "certain of Freeman's criticism of Mead are wellfounded [sic]; certainly *there has been a long-standing bias against* including biological factors in our understanding of human behavior, and a number of Mead's statements regarding life in Samoa are very misleading" (p. 11). Besides the hoaxing issue, Orans does fault Freeman for treating Mead as capable of refutation on the basis of facts at all. (If Orans were right in this it would be fruitless to ask if *The Grapes of Wrath* is a fair portrayal of the dust bowl.) Considered as a whole, Orans's book is far from a ringing endorsement of Mead.

Donald McBurney
Department of Psychology
University of Pittsburgh
Pittsburgh, Pa.

(See also the "Follow-Up" column exchanges in this issue on page 60.—ED.)

Karma Is Not Fate

I wish to comment on the book review article "A Cogent Consideration of the Case for Karma (and Reincarnation)" written by Barry L. Beyerstein.

Beyerstein does not seem to have an understanding of the Buddhist concept of Karma. Buddhist Karma is not fate nor is it the notion "in life people get what they deserve and deserve what they get." If we get sick with lung cancer, this is not Karmic retribution for something we did in a past life but rather falls under the category that Buddhists refer to as *objective conditions. Our illness was likely caused because we* smoked too much or perhaps we were in some way genetically predisposed toward cancer. Karma means *our action.* Basically it means that our mental and spiritual well-being are determined by our own actions (Karma), not by fate, not by chance, not by miracle, and not by a divine being. Karma is how we respond to life's "ups and downs." In other worlds, it would be how we mentally responded to getting lung cancer and the spiritual insight we gained through experience. . . .

Harry McNicholas
Portland, Ore.

Miracles and Nature's Laws

I am puzzled by the letter from Daniel Barnett, David Bloomberg, Tim Holmes et al. in the January/February 1999 issue. They *object to Wayne Anderson's calling his sam*pling of biblical miracles "far-fetched" etc. and subsequently cite Christians who believe, through "faith" alone, that Jesus walked on water. Now if we adopt the orthodox proposition that Jesus was not only divine, but fully

human, we cannot allow that he was exempt from gravitational forces. Therefore, the belief that he walked on water constitutes a belief that the laws of physics can be suspended. It is of no consequence whether this belief is based upon faith, or upon the flimsy evidence of perhaps four documents, not even written by eyewitnesses. It is hard to imagine a more fundamental assault upon the basic assumptions of science.

Not all the miracles are as far-fetched as that. It is perfectly plausible that when Jesus said "she is not dead, but sleeping," he was literally describing catalepsy. It is plausible that certain others of the healing miracles were in fact cures of a psychosomatic sort. According to G. B. Shaw, Jesus was troubled by the dilemma that healing the sick would distract attention from his more important work, his message of how to conduct your life.

Then there is the famous miracle at the wedding in Cana. If ever anybody wants to show that Jesus was fun to have around, that's the one to quote. Once you have rejected the idea that the Almighty Creator of the laws of nature is liable to suspend them merely so his son can show off, you are left with something that strongly resembles what the liveliest and brightest students at places like MIT call a "hack." It is my understanding that on one occasion there, a police car miraculously appeared overnight on the dome of one of the buildings, and that on another, an immense black balloon bearing the letters MIT appeared in the middle of a football field occupied by the Harvard-Yale game. Neither of these miracles involved anything but stealth and confident engineering.

Experimental evidence shows that there are persons devoted to the scientific analysis of nature who believe in the Christian God. But like Wayne Anderson, I assert that belief in the sort of miracles that constitute suspension of the ordinary laws of nature is destructive of the ability to approach ordinary life rationally. Not only that, but it is destructive of belief in a rational God, which to my mind seems a kind of blasphemy.

Albert Rogers
Arlington, Va.

Hawking Didn't Say It

In case anyone takes umbrage with the really stupid ending of my letter to the editor in the January/February 1999 (regarding the Anderson article), it was a two-part misprint. I had intended to write:

"But I am still left with the uncomfortable slogan: *Steven Hawking said it, I believe it, and that settles it.* Except I never was much good in the faith department."

This was meant to be a humorous takeoff on the ubiquitous bumper sticker: *The Bible said it, I believe it, and that settles it.* It came out in print as:

"But I am still left with the uncomfortable slogan: Steven Hawking said, 'I believe it and that settles it.'"

Which really sounded dumb. After I got done cussing out the copy editors, I went back to the original and found that I had missed a small but important word, the "it" that comes after the word "said." Aargghh!!

There is no need to print this letter, but if anyone wants to know who is Bev Kaufman and how dare she slander Steven Hawking, that's what happened.

Bev Kaufman
Sunrise, Fla.

Attack of the Humorless!

Mr. Hone's recent letter, "ABC's Automated Autos!" (January/February), criticizing the recent satire "When Cars Attack," demonstrates something I have suspected for a long time—namely, some readers of *SI* have no sense of humor. According to Mr. Hone, the program may have led some viewers into the mistaken belief that automobiles were capable of autonomous mayhem.

Previously, the film *Men in Black* was denounced on the same basis—that innocent minds were deluded into believing that UFOs were somehow real and that Manhattan was an intergalactic refuge for alien lifeforms.

Perhaps all of this amorphous literary rubbish known as "fiction" should be banned, so as to protect the fragile minds of the masses. Perhaps films should be emblazoned with CSICOP warning: *This media does not comply with the skeptical ideology.*

Skeptics are far better off limiting their critiques to programs that pretend to factualism—such as "Alien Autopsy" and the nightly news. Questioning whether ABC News will cover its parent company, Disney, in an objective manner, or whether the cable news channels have any stake in stirring up an impeachment frenzy is more important than trying to eliminate satire.

Jeremy Erwin
Herndon, Va.

Mysteries of *Reader's Digest*

I thought the Roswell flurry was more or less vitiated by now. However, I just received a video from *Reader's Digest* entitled "Mysteries of Deep Space" along with a booklet stating the following:

(Page 25): "Why did the Army approach the town mortician asking about embalming methods and inquiring as to the availability of children's coffins. . . ? Why was an Army nurse, who witnessed the autopsy [of the aliens] transferred to England, only to die shortly thereafter? Why are four years of government documentation from the Roswell Army base missing—the years 1946–1950?"

Do these questions have any foundational validity? I doubt it, but I cannot substantiate my skepticism.

Generally, I carry the impression that *Reader's Digest* is reliable as far as it goes. But, I've concluded long ago that it has a strong bias for the traditional at the expense of really reaching for the truth.

Harold E. "Terry" Mohr
Aptos, Calif.

The letters column is a forum for views on matters raised in previous issues. Letters should be no more than 225 words. Due to the volume of letters not all can be published. Address letters to Letters to the Editor, SKEPTICAL INQUIRER. Send by mail (preferred) to 944 Deer Dr. NE, Albuquerque, NM 87122; by fax to 505-828-2080; or by e-mail to letters@csicop.org (include name and address).

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